

Proposed Amended Rule 1153.1

Public Workshop

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Agenda

Rule 1153.1 Background

Rule Language Overview

Emission Reductions

Socioeconomic Impacts

California Environmental Quality Act
(CEQA)

Next Steps

Background

Background

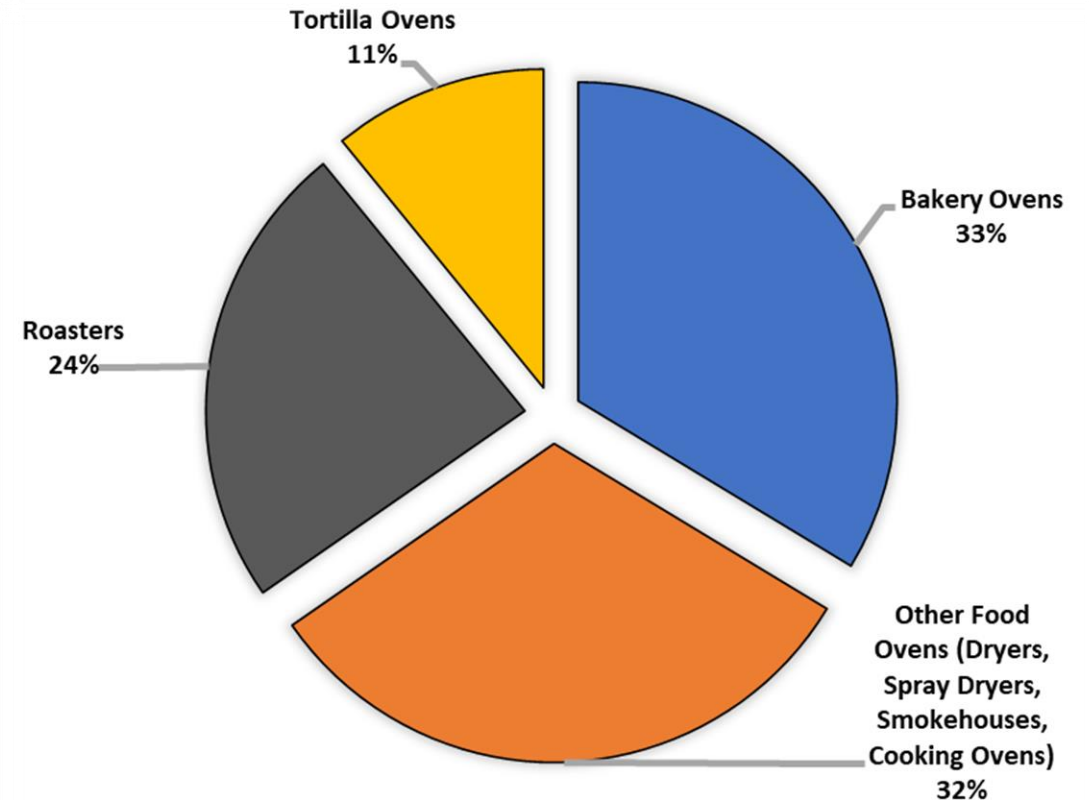
- 2016 Air Quality Management Plan
 - Requires a five ton per day NOx emission reduction to be achieved with Best Available Control Technology (BARCT) as practicable, as soon as practicable
 - Transition the RECLAIM program to a command-and-control regulatory structure
- Assembly Bill 617
 - Required an expedited BARCT implementation for facilities in the state greenhouse gas cap and trade program
 - Assigns the highest priority to those permitted units that have not modified emissions related permit conditions for the greatest period of time
- Proposed Amended Rule 1153.1 is one of the two remaining BARCT rules needed for transitioning out of RECLAIM

Rule 1153.1 Background

- Commercial food ovens were initially subject to Rule 1147 - NOx Reductions from Miscellaneous Sources
- Rule 1153.1 was adopted in November 2014
 - Applicable to food ovens, roasters, and smokehouses
 - Established NOx and CO limits
- Proposed Amended Rule 1153.1 (PAR 1153.1) will be applicable to all facilities and includes:
 - Lower NOx emission limits for food oven categories
 - Compliance schedule
 - Updated rule language and structure

Impacted Equipment

- PAR 1153.1 will impact approximately 224 units located at 97 facilities
 - 45 units located at six RECLAIM facilities
 - 179 units located at non-RECLAIM facilities
- PAR 1153.1 includes additional food oven categories:
 - Bakery Ovens
 - Tortilla Ovens
 - Roasters
 - Other Food Ovens (e.g., drying ovens, dryers, spray dryers, and smokehouses)



Rule Language Overview

Proposed Changes to Rule 1153.1

- PAR 1153.1 includes significant restructuring and updating
 - Most of the requirements have not changed
 - Consolidated monitoring, reporting, and recordkeeping (MRR) and compliance dates into separate subdivisions
 - New rule structure mirrors Rules 1147 and 1147.1
 - Many facilities are subject to multiple rules and parallel requirements simplify compliance
- Some new requirements added to provide clarity, support flexibility in compliance options, and address issues raised by stakeholders

Key Rule Updates Summary

- Updated rule structure and added new subdivisions
- Added provisions to implement BARCT and RECLAIM sunset
- Removed outdated language and subdivisions
- Reorganized and updated provisions for clarity
- Added compliance options

Removed Subdivisions

(e) Certification

- Replaced with new subdivision (h) Compliance by Certification

(f) Enforcement

- Provisions moved and incorporated into other subdivisions

(h) Mitigation Fee Compliance

- Mitigation fee for compliance option is outdated and no longer necessary

Updated Rule Structure Overview

Current Rule 1153.1

- (a) Purpose and Applicability
- (b) Definitions
- (c) Requirements
- (d) Compliance Determination
- (e) Certification
- (f) Enforcement
- (g) Exemptions
- (h) Mitigation Fee Compliance Option



Proposed Amended Rule 1153.1

- (a) Purpose
- (b) Applicability
- (c) Definitions
- (d) Requirements
- (e) Compliance Schedule
- (f) Burner Age
- (g) Source Test Requirements
- (h) Compliance by Certification
- (i) Demonstration of one pound or less of NO_x per Day
- (j) Monitoring, Recordkeeping, and Reporting Requirements
- (k) Exemptions

Purpose (a) and Applicability (b)

- Purpose and Applicability are moved into individual subdivisions
- Language updated for clarity
- Applicability updated to reflect newly defined food oven categories
 - Bakery Ovens, Tortilla Ovens, Dryers, Smokehouses, Food Ovens
 - Removed reference to Rule 1147 – NOx Emission Reductions from Miscellaneous Sources including reference to paragraph (d)(7)

Language Updates

(a) ~~Purpose and Applicability~~

The purpose of this rule is to reduce ~~nitrogen oxide~~ Oxides of Nitrogen (NOx) and Carbon Monoxide (CO) emissions from gaseous and liquid fuel-fired combustion equipment as defined in this rule.

(b) Applicability

This rule applies to owners or operators of Food Ovens including, but not limited to, with ~~in-use ovens~~ Bakery Ovens, Tortilla Ovens, Dryers, Smokehouses, Food Ovens, and ~~dry roasters~~ Roasters with ~~nitrogen oxide~~ (NOx) emissions from fuel combustion that require South Coast Air Quality Management District (~~SCAQMD~~ South Coast AQMD) permits and are used to prepare food or products for making beverages for human consumption. ~~As of November 7, 2014, the equipment subject to this rule is no longer subject to SCAQMD Rule 1147 except for the compliance determination option set forth in Rule 1147 (d)(7).~~

Definitions (c)

- Added definitions to address RECLAIM transition
- Added newly defined food oven categories
- Added several other definitions for clarity

- Removed six definitions not used in the rule

New Definitions

- Former RECLAIM Facility, Non-RECLAIM Facility, and RECLAIM Facility
- Bakery Oven, Tortilla Oven, Dryer, Other Food Ovens, and Smokehouses
- Decommission
- Parts Per Million by Volume (ppmv)
 - Defined as 3% Oxygen correction to streamline rule
- Standard Conditions
- Source Test Protocol (formerly Protocol)

Removed Definitions

- Annual Heat Input
- BTU
 - Included as British Thermal Unit (Btu) on first use
- Combustion Modification
- In-Use Units
- Radiant Tube Heating
- Protocol

Removes outdated provisions

- Outdated compliance limits and schedule

Rearranged some current provisions into requirement subdivision

- One pound of NO_x per day provision

Subdivision (d): Requirements

Requirements (d): Table 1 Limits

Current Table 1 Limits

NOx Emission Limit	
PPM @ 3% O ₂ , dry or Pound/mmBTU heat input	
Process Temperature	
≤ 500° F	> 500° F
40 ppm or 0.042 lb/mmBTU	60 ppm or 0.073 lb/mmBTU

PAR 1153.1 Table 1 New Limits

Equipment Categories	NOx Emission Limits	CO Emission Limits
Bakery Ovens	30 ppmv or 0.036 lbs/MMBtu	800 ppmv
Tortilla Ovens	30 ppmv or 0.036 lbs/MMBtu	
Tortilla Ovens (heated solely by Infrared Burners)	15 ppmv or 0.018 lbs/MMBtu	
Dryers, Smokehouses, and any Other Food Ovens	30 ppmv or 0.036 lbs/MMBtu	
Roasters	30 ppmv or 0.036 lbs/MMBtu	

Requirements (d): Interim Limits

New Provision for Interim Limits

(2) Interim Concentration Limits

An owner or operator of a Unit at a Former RECLAIM Facility shall not operate the Unit in a manner that exceeds a 102 ppmv interim NOx concentration limit upon the date of becoming a Former RECLAIM Facility until that Unit is required to meet the emission limits in subdivision (d) pursuant to the compliance schedule in subdivision (e).

- Interim limits are established for units located at former RECLAIM facilities
 - Prevents a unit from backsliding if a unit is not subject to a NOx emission limit prior to exiting RECLAIM
- Former RECLAIM units must comply with the interim NOx limit of 102 ppm

Requirements (d): One Pound Per Day or Less of NOx *(preliminary draft version)*

Moved and Expanded Provision

(3) In lieu of complying with the emission limits in Table 1, an owner or operator of a Unit may elect to comply with NOx emissions of one pound or less per day or NOx emissions of one pound or less per day averaged over a calendar month and shall demonstrate compliance with the elected NOx limit pursuant to subdivision (i) and maintain records pursuant to subdivision (j).

- Current rule includes an exemption for units that emit one pound or less NOx per day
 - Moved from exemption subdivision to requirement subdivision
 - Considered an alternative NOx limit instead of low-emission exemption
 - Expanded to allow for monthly average
- Subdivision (i) added to establish the requirements for demonstrating compliance with one pound per day emission limit

Requirements (d): One Pound Per Day or Less of NOx (*updated language*)

Proposed Updated Rule Language

- (3) In lieu of complying with the emission limits in Table 1, an owner or operator of a Unit may elect to comply with the following, whichever is lower:
- (A) NOx emissions of one pound or less per day or NOx emissions of one pound or less per day averaged over a calendar month and shall demonstrate compliance with the elected NOx limit pursuant to subdivision (i) and maintain records pursuant to subdivision (j); or
 - (B) An existing permit limit of less than one pound of NOx per day.

- Proposing to revise paragraph (d)(3) to address existing units with a permit condition limiting the unit to one pound or less of NOx per day
 - Language revised to prevent potential backsliding

Requirements (d): Decommissioning a Unit

New Provision for Decommissioning Units

(4) In lieu of complying with the emission limits in Table 1, an owner or operator of a Unit may elect to Decommission the Unit pursuant to the schedule in paragraph (e)(3).

- Paragraph (d)(4) provides the option to decommission a unit in lieu of meeting Table 1 limits
- Compliance schedule in paragraph (e)(3)

Requirements (d) (*cont.*)

- Paragraph (d)(5) is an existing requirement
 - Removed outdated effective date
 - Current language includes recordkeeping provisions
 - Moved that language to subdivision (j)

Paragraph (d)(5)

~~(65) On or after November 7, 2014, any person owning or operating~~ An owner or operator of a unit ~~Unit~~ subject to this rule shall perform ~~combustion system~~ Combustion System maintenance in accordance with the manufacturer's schedule and specifications as identified in the manual or other written materials supplied by the manufacturer or distributor. ~~The owner or operator shall maintain on site at the facility where the unit is being operated a copy of the manufacturer's, distributor's, installer's, or maintenance company's written maintenance schedule and instructions and retain a record of the maintenance activity for a period of not less than three years. The owner or operator shall maintain on site at the facility where the unit is being operated a copy of the SCAQMD certification or SCAQMD approved source test reports, conducted by an independent third party, demonstrating that the specific unit complies with the emission limit. The source test report(s) must identify that the source test was conducted pursuant to a SCAQMD approved protocol. The model and serial numbers of the specified unit shall clearly be indicated on the source test report(s). The owner or operator shall maintain on the unit in an accessible location a permanent or permanent supplemental rating plate. The maintenance instructions, maintenance records, and the source test report(s) or SCAQMD certification shall be made available to the Executive Officer upon request.~~

Requirements (d) (cont.)

- Paragraphs (d)(6) and (d)(7) are existing requirements
- Updated language and references

Paragraph (d)(6)

(76) ~~Any person owning or operating~~ An owner or operator of a ~~unit~~ Unit ~~subject to this rule~~ complying with ~~an~~ the emission limits in Table 1 expressed as pounds per million ~~BTU~~ Btu shall install and maintain ~~in-service~~ non-resettable, totalizing fuel meters for the fuel(s) supplied to each ~~unit's~~ Unit ~~fuel(s)~~ pursuant to paragraph (j)(7) prior to the compliance determination specified in ~~paragraph (e)(3)~~ subdivision (g).

Paragraph (d)(7)

(7) ~~An Owners~~ owner or operators of a ~~unit~~ Unit with a ~~combustion system~~ Combustion System that operates at only one firing rate, as required by permit condition, that complies with an emission limit ~~using~~ expressed as pounds per million ~~BTU~~ Btu shall install a non-resettable, totalizing time or fuel meter for each fuel pursuant to subparagraphs (j)(7) and (j)(8).

Requirements (d):

Removed Outdated Provisions

Removed Outdated Rule Language

- Removed outdated rule language:
 - Compliance schedule (Table 2) – paragraph (c)(1)
 - Unit age – paragraph (c)(2)
 - Identification of Units – paragraph (c)(4)
 - Compliance by Certification – paragraph (c)(9)
 - Replaced with Compliance by Certification subdivision (h)
 - Alternative Compliance Plan for Multiple Units – paragraph (c)(10)
 - Alternative plan deemed unnecessary because proposed schedule has phased in limits based on burner age

Note: References above are to current Rule 1153.1

Compliance Schedule (e)

(preliminary draft version)

- Paragraph (e)(1) establishes the compliance schedule to meet Table 1 limits
- Owner or operator must submit permit application when burner has been in operation for 22 years
 - 22 years based on 25-year useful life but builds in 3 years for design, permitting, and retrofit
- Not exceed the limits once in operation for more than 25 years

Paragraph (e)(1)

(e) Compliance Schedule

(1) An owner or operator of a Unit that is required to meet the NOx and CO emission limits in Table 1 and does not have an existing condition that limits the NOx and CO emissions to the applicable limits in Table 1 shall:

(A) Submit a permit application for each Unit to limit the NOx and CO emissions to a level not to exceed the emission limits in Table 1:

(i) On or before January 1, 2024, for any Unit where the burner age is 22 years or older, as determined pursuant to subdivision (f), as of [Date of Adoption]; or

(ii) On or before July 1 of the year when a Unit's burner age reaches 22 years, as determined pursuant to subdivision (f), by January 1 of that calendar year; and

(B) Not operate a Unit that exceeds the NOx and CO emission limits in Table 1 later than one of the following dates, whichever is sooner:

(i) 12 months after a permit is issued;

(ii) The expiration date of the permit, if any extension of time has been approved in writing pursuant to Rule 205 – Expiration of Permits to Construct (Rule 205); or

(iii) The burner age is 25 years old.

Compliance Schedule (e) *(proposed revision)*

- After WGM #5, a stakeholder expressed concern with 25 years age limit for burner operation
- Units with burners that are 25 years old upon rule adoption will be out of compliance
- Proposing to separate compliance schedule for units with burners in operation for less than 22 years, and those that are older

Revised Paragraph (e)(1)

- (e) Compliance Schedule
- (1) An owner or operator of a Unit equipped with a burner(s) that has been installed for less than 22 years as determined pursuant to subdivision (f), that is required to meet the NOx and CO emission limits in Table 1 and does not have an existing condition that limits the NOx and CO emissions to the applicable limits in Table 1 shall:
- (A) Submit a permit application for each Unit to limit the NOx and CO emissions to a level not to exceed the emission limits in Table 1 on or before July 1 of the year when a Unit's burner age reaches 22 years, as determined pursuant to subdivision (f), by January 1 of that calendar year; and [...]

New Paragraph (e)(2)

- (2) An owner or operator of a Unit equipped with a burner(s) that has been installed for 22 years or longer on [Date of Adoption], that is required to meet the NOx and CO emission limits in Table 1 and does not have an existing condition that limits the NOx and CO emissions to the applicable limits in Table 1 shall:
- (A) Submit a permit application for each Unit to limit the NOx and CO emissions to a level not to exceed the emission limits in Table 1 on or before January 1, 2024; and
- (B) Not operate a Unit that exceeds the NOx and CO emission limits in Table 1 later than one of the following dates, whichever is sooner:
- (i) 12 months after a permit is issued; |
- (ii) The expiration date of the permit, if any extension of time has been approved in writing pursuant to Rule 205 – Expiration of Permits to Construct (Rule 205); or
- (iii) January 1, 2027.

Compliance Schedule (e): Unit Decommissioning

New Compliance Schedule for Decommissioning

- (3) An owner or operator that elects to Decommission a Unit pursuant to paragraph (d)(4) shall Decommission the Unit no later than 30 months after the applicable permit application submittal date pursuant to subdivision (e)(1) and, by that date:
- (A) Inactivating the applicable South Coast AQMD permit for the Unit to be decommissioned; and
- (B) Disconnecting and blinding the fuel line(s) of the Unit to be decommissioned.

- Paragraph (e)(3) establishes the schedule for an owner or operator electing to decommission a unit
 - Units must be decommissioned no later than 30 months after the permit submittal due date based on burner age of 22 years
 - Permit must be deactivated
 - Fuel lines must be disconnected and blinded

Compliance Schedule (e) (cont.)

- Paragraph (e)(4) establishes the schedule for permit submittal for a bakery oven currently performing near Table 1 BARCT limit
- Paragraph (e)(5) establishes schedule if the bakery oven exceeds exemption limit

Paragraph (e)(4)

- (4) An owner or operator of a Unit exempt from the emission limits in Table 1 pursuant to paragraph (k)(2) shall:
- (A) On or before July 1, 2023, submit a complete permit application for a permit condition that limits the NOx emissions to 35 ppmv and the CO emissions to 800 ppmv; and
- (B) Not operate a unit that exceeds the applicable emission limit in Table 1 later than one of the following dates, whichever is sooner:
- (i) 12 months after a permit is issued; or
 - (ii) The expiration date of the permit, if any extension of time has been approved in writing pursuant to Rule 205; or
 - (iii) July 1, 2025.

Paragraph (e)(5)

- (5) An owner or operator of a Unit exempt from the emission limits in Table 1 pursuant to paragraph (k)(2) that exceeds the exemption limitation shall:
- (A) Submit a permit application to meet the applicable emission limit in Table 1 within six months of the exceedance to demonstrate compliance pursuant to subdivision (h) or exceeds the permit limit; and
- (B) Not operate a unit that exceeds the applicable emission limit in Table 1 later than one of the following dates, whichever is sooner:
- (i) 12 months after a permit is issued; or
 - (ii) The expiration date of the permit, if any extension of time has been approved in writing pursuant to Rule 205; or
 - (iii) Three years from the date the Unit exceeds the exemption limit.

Compliance Schedule (e) (cont.)

- Paragraph (e)(6) establishes schedule for a facility that fails to submit required documents for compliance by certification
- Paragraph (e)(7) establishes schedule for a facility that fails to operate a unit as specified by the compliance by certification

Paragraph (e)(6)

- (6) The owner or operator of any Unit that fails to meet the compliance by certification requirements specified in subparagraphs (h)(1)(A) through (h)(1)(E) or fails to submit manufacturer's emission certification, contract, or purchase order that is identical to the Combustion System specified in the application for the Unit's permit and installed in the Unit, shall demonstrate compliance with the applicable emission limit in Table 1 through source test pursuant to subdivision (g) according to the following schedule:
- (A) Submit a complete source test protocol within 180 days failing the compliance demonstration; and
 - (B) Conduct the initial source test within 90 days after receiving written approval of the Source Test Protocol by the Executive Officer; and
 - (C) Conduct subsequent source tests according to the schedule in paragraph (g)(7).

Paragraph (e)(7)

- (7) An owner or operator of any Unit that fails to operate the Unit as specified in the manufacturer's emission certification in subparagraphs (h)(1)(A) through (h)(1)(E), including specified processes, operating conditions, and temperatures, shall demonstrate compliance with the applicable emission limit in Table 1 through source test pursuant to subdivision (g) according to the following schedule:
- (A) Submit a complete source test protocol within 180 days failing the compliance demonstration; and
 - (B) Conduct the initial source test within 90 days after receiving written approval of the Source Test Protocol by the Executive Officer; and
 - (C) Conduct subsequent source tests according to the schedule in paragraph (g)(7).

New Subdivision (f): Burner Age

- Subdivision (f) establishes methodology for determining burner age
 - Needed for the compliance schedule, burner replacement after 22 years
 - Language mirrors Rule 1147

New Subdivision (f)

(f) Burner Age

- (1) Burner age for a Unit equipped with burners of varying ages shall be based on the oldest burner age.
- (2) Burner age shall be based on the original date of installation determined by:
 - (A) Invoice from purchase of burner equipment provided by burner manufacturer;
 - (B) Information submitted to the South Coast AQMD in previous permit applications for replacement of the specific burner;
 - (C) Original Unit manufacturer's identification or rating plate permanently affixed to the Unit; or
 - (D) Any other method of determining burner age that can be substantiated through written information as approved by the Executive Officer.
- (3) The burner shall be deemed to be 22 years old as of January 1, 2024, for any Unit where the burner age cannot be determined pursuant to paragraph (f)(2).

Changed name from Compliance Determination to Source Test Requirements

Language updated and rearranged

All test methods remain the same

Added a schedule to conduct an initial source test (new provision since preliminary draft was released)

Added a source test schedule of one every five years

Subdivision (g): Source Test Requirements

Source Test Requirements (g) (cont.)

- Paragraph (g)(1) has similar requirements as current rule but updated language
- Paragraph (g)(2) include source test protocol approval procedure

Paragraph (g)(1)

(dg) ~~Compliance Determination~~ Source Test Requirements

- (1) An owner or operator of a Unit(s) shall conduct simultaneous source tests for NOx and CO, averaged over a period of at least 15 and no more than 60 consecutive minutes, to demonstrate compliance with the applicable NOx and CO emission limits in Table 1.

Paragraph (g)(2)

- (2) An owner or operator of a Unit required to conduct a source test pursuant to this subdivision shall:
- (A) Submit a complete Source Test Protocol for approval at least 60 days prior to conducting the source test; and
- (B) Conduct the source test within 90 days after issuance of a written approval of the Source Test Protocol by the Executive Officer.

Source Test Requirements (g) (cont.)

- Paragraph (g)(3) include provisions regarding resubmittal of a source test protocol

Paragraph (g)(3)

- (3) After the approval of the initial Source Test Protocol pursuant to paragraph (g)(2), an owner or operator of a Unit shall resubmit a Source Test Protocol for approval if requested by the Executive Officer or if:
- (A) The method of operation of the Unit has been altered in a manner that requires a complete permit application submittal;
 - (B) Rule or South Coast AQMD permit emission limits have not changed since the previous source test;
 - (C) There have been changes in the source test method(s) that is referenced in the approved Source Test Protocol; and
 - (D) The approved Source Test Protocol is not representative of the operation and configuration of the Unit.

Source Test Requirements (g) (*cont.*)

- Paragraph (g)(4) is new language since the preliminary draft, includes the schedule for an initial source test

New Paragraph (g)(4)

- (4) An owner or operator of a Unit shall conduct an initial source test no later than 24 months after [Date of Adoption], unless the owner or operator conducted an approved source test less than 24 months before [Date of Adoption], and establish the date of this source test as the basis for subsequent source testing frequency pursuant to paragraph (g)(5).

Source Test Requirements (g) (cont.)

- Paragraph (g)(4) from the preliminary draft, requirements are rearranged
 - All test methods are the same

Paragraph (g)(4)

- (34) An owner or operator of a Unit shall conduct the source test to demonstrate ~~Compliance~~ compliance with the NOx and CO emission limits ~~of subdivision (e) in Table 1~~ and ~~determination~~ determine ~~of~~ stack-gas oxygen and carbon dioxide concentrations ~~for this rule shall be determined according to the following procedures:~~
- (A) Using an independent contractor to conduct testing, which is approved by the Executive Officer under the Laboratory Approval Program for the applicable test methods;
 - (B) Using a South Coast AQMD approved Source Test Protocol;
 - (C) After Unit start-up;
 - (D) At the maximum Heat Input of the Unit normal operating range;
 - (E) At a Heat Input of less than 35% of the Rated Heat Input Capacity; and
 - (F) Using at least one of the following applicable test methods:

Source Test Requirements (g) *(cont.)*

- Paragraphs (g)(5) and (g)(6) moved to MRR subdivision

Original Paragraph (5)

~~(5) — Records of source tests shall be maintained on site and made available to SCAQMD personnel upon request. Emissions determined to exceed any limits established by this rule through the use of any of the test methods specified in subparagraphs (d)(3)(A) through (d)(3)(F) and paragraph (d)(4) shall constitute a violation of this rule.~~

Original Paragraph (6)

~~(6) — All compliance determinations shall be made by SCAQMD or using an independent contractor to conduct testing, which is approved by the Executive Officer under the Laboratory Approval Program for the applicable test methods.~~

Source Test Requirements (g) (*cont.*)

- Paragraph (g)(6) expanded to include other equipment in series
 - Afterburners, thermal oxidizers, and vapor incinerators subject to Rule 1147
- Options for testing units in series not changed
 - Test each unit separately
 - Test unit at the end of series and use weighted limit

Subparagraph (g)(6)

- (76) ~~For equipment with two or more units in series or multiple units with a common exhaust, the~~ An owner or operator of equipment with two or more Units in series or multiple Units with a common exhaust, including an afterburner, thermal oxidizer, or vapor incinerator subject to Rule 1147 – NOx Reductions from Miscellaneous Sources (Rule 1147) may elect to demonstrate compliance with the applicable emission limits in Table 1 by one of the following:

Source Test Requirements (g) (cont.)

- Paragraph (g)(7) establishes source test schedule
- Paragraph (g)(8) states that any exceedance will constitute a violation
 - Moved from existing rule's enforcement subdivision

Paragraph (g)(7)

- (7) An owner or operator of a Unit subject to the emission limits in Table 1 shall conduct source tests pursuant to subdivision (g) to demonstrate compliance with the applicable NOx and CO emission limits in Table 1 every five calendar years, but no earlier than 48 calendar months after the previous source test.

Paragraph (g)(8)

- (8) Emissions determined to exceed any limit established by this rule using any of the test methods specified in subparagraph (g)(4)(F) shall constitute a violation of this rule.

Replaces the existing Certification subdivision

Mirrors the language in Rules 1147 and 1147.1

- Allows units with a Rated Heat Input Capacity of 2 million Btu per hour or less to demonstrate compliance through manufacturer guarantees instead of source testing

New
Subdivision (h):
Compliance by
Certification

Compliance by Certification (h) (cont.)

- Currently subdivision (e) Certification in Rule 1153.1
- Moved to subdivision (h)
- Paragraph (h)(1) language was updated and mirrors language in Rule 1147

Paragraph (h)(1)

(h) Compliance by Certification

(1) The owner or operator of any Unit with a Rated Heat Input Capacity of 2 million Btu per hour or less may elect to demonstrate compliance with the applicable emission limit through a burner manufacturer's emission certification in lieu of source test pursuant to subdivision (g) by providing the following information with a permit application:

(A) Emission certifications provided by the manufacturer or manufacturer authorized distributor of the burner(s) submits signed by the burner manufacturer's Responsible Official that guarantee the burner(s), fuel and combustion air system, and combustion control system identified in the application for the South Coast AQMD permit comply with the applicable NOx emission limits in Table 1 when used for specified processes and operating conditions, and within specified temperature ranges;

(B) The signed emissions certifications separately provided by the manufacturer or manufacturer authorized distributor of the burner(s) addressed to:

(i) The owner or operator of the Unit; and

(ii) Executive Officer or designee;

Compliance by Certification (h) (cont.)

- Subparagraphs (h)(1)(C) through (h)(1)(E) lists required supporting documentation to be submitted with permit application

Subparagraph (h)(1)(C)

- (C) Any supporting documentation, submitted by the manufacturer or manufacturer authorized distributor of the burner(s) to the Executive Officer or designee, including emission test reports of at least five South Coast AQMD approved emission tests using a South Coast AQMD approved test protocol and methods for five different Units operating the same:
- (i) Process;
 - (ii) Burner;
 - (iii) Fuel and combustion air system;
 - (iv) Combustion control system; and
 - (v) Temperature range;

Subparagraph (h)(1)(D)

- (D) The emission test results specified in subparagraph (h)(1)(C) approved by the South Coast AQMD Executive Officer prior to submittal of the application for permit; and

Subparagraph (h)(1)(E)

- (E) A contract or purchase order, signed by the Responsible Official of the owner or operator of the Unit, for purchase of the burner(s), fuel and combustion air system, and combustion control system to be installed in the Unit as identified in the permit application and the signed letter or bid from the burner manufacturer to the owner or operator of the Unit as specified in subparagraph (h)(1)(A) of this rule.

Compliance by Certification (h) *(cont.)*

- Paragraph (h)(2) establishes violation determination for Unit that is found to exceed emission limit
 - Provision similar to current rule's subdivision (f), which was deleted

Paragraph (h)(2)

(h) Compliance by Certification

(2) Any compliance determination conducted by the Executive Officer for a Unit complying with this subdivision that results in emissions in excess of those allowed in this rule shall constitute a violation.

Includes procedures to demonstrate the new allowance to average the one pound over a calendar month

- Mirrors Rule 1147 and 1147.1

Existing procedure to demonstrate the daily allowance moved from exemptions subdivision

- Language remains the same

New
Subdivision (i):
Demonstration
of one pound or
less of NO_x per
day

Demonstration of one pound or less of NOx per day (i) (cont.)

- Paragraph (i)(1) is new option to demonstrate one pound per day average over a calendar month
 - Provided three methods for determination
 - Mirrors language in Rules 1147 and 1147.1

Paragraph (i)(1)

(i) Demonstration of one pound or less of NOx per day

(1) One pound or less of NOx per day averaged over a calendar month

On or before July 1, 2023, an owner or operator of a Unit electing to comply with paragraph (d)(3) by demonstrating that NOx emissions are less than one pound per day averaged over a calendar month shall:

(A) Install and maintain a non-resettable totalizing time meter on the Unit pursuant to paragraph (j)(9) and operate the Unit no more than the specified time per calendar month in Table 3 or as calculated using Equation 1 (Eq. 1);

$$\text{Monthly Operating Hours} = D \div [R \times (EF \div \text{HHV})] \quad (\text{Eq. 1})$$

Where:

D = Number of Days in Calendar Month

R = Rated Heat Input (MMBtu/hr)

EF = Emission Factor for the Unit (lbs NOx/MMScf natural gas)

HHV = Higher Heating Value of Natural Gas (1,050 MMBtu/MMScf)

Demonstration of one pound or less of NOx per day (i) (cont.)

- Table 3 and Equation 2 are the second and third methods for demonstrating the less than one pound per day based on a monthly average

Table 3

Table 3 – Less than One Pound per Day Monthly Operating Limits

<u>Unit Rated Heat Input (Btu/hr)</u>	<u>Monthly Operating Limit (Hours)</u>
<u>≤ 400,000</u>	<u>320</u>
<u>>400,000 to ≤ 800,000</u>	<u>160</u>
<u>> 800,000 to ≤ 1,200,000</u>	<u>100</u>

Subparagraph (i)(1)(B)

(B) Install and maintain a non-resettable totalizing fuel meter pursuant to paragraph (j)(9) corrected to Standard Conditions on the Unit and consume no more than the Therms of fuel per month calculated using Equation 2 (Eq. 2).

$$\text{Monthly Therms of Fuel} = (D \div EF) \times \text{HHV} \times 10 \quad (\text{Eq. 2})$$

Where:

D = Number of Days in Calendar Month

EF = Emission Factor for the Unit (lbs NOx/MMScf natural gas)

HHV = Higher Heating Value of Natural Gas (1,050 MMBtu/MMScf)

10 = Conversion to from MMBtu to Therms

Paragraph (i)(2)

Demonstration of one pound or less of NOx per day (i) (cont.)

- Paragraph (i)(2) includes existing demonstration from exemptions
 - Procedure and requirements for determining daily one pound or less is unchanged

(2) Daily One pound or less of NOx per day

An owner or operator of a Unit electing to comply with paragraph (d)(3) by demonstrating the daily NOx emissions are one pound or less per day shall:

(A) Have a Rated Heat Input Capacity of less than 325,000 Btu per hour displayed on the Unit pursuant to paragraph (j)(4);

(B) Install and maintain a non-resettable totalizing time meter on the Unit pursuant to paragraph (j)(9) and operate the Unit no more than the specified time in Table 4; or

Table 4 – Less than One Pound per Day Daily Operating Limits

<u>Unit Rated Heat Input (Btu/hr)</u>	<u>Daily Operating Limit (Hours)</u>
<u>≤ 400,000</u>	<u>16</u>
<u>>400,000 to ≤ 800,000</u>	<u>8</u>
<u>> 800,000 to ≤ 1,200,000</u>	<u>5</u>

(C) Install and maintain a non-resettable totalizing fuel meter on the Unit pursuant to paragraph (j)(9) and operate the Unit using less than or equal to 7,692 cubic feet per day of natural gas corrected to Standard Conditions and maintain records pursuant to paragraph (j)(10).

Demonstration of one pound or less of NOx per day (i) (*cont.*)

- Considering moving the demonstration based on rated heat input capacity as an exemption, proposed subparagraph (i)(2)(A)
 - Units with a rated heat input capacity of less than 325,000 Btu per hour would be exempt in subdivision (k)

(A) Have a Rated Heat Input Capacity of less than 325,000 Btu per hour displayed on the Unit pursuant to paragraph (j)(4);

~~(e) — Certification~~

~~(1) — Unit Certification~~

~~For units that do not allow adjustment of the fuel and combustion air for the combustion system by the owner or operator, any manufacturer or distributor that distributes for sale or sells units or combustion systems for use in the SCAQMD may elect to apply to the Executive Officer to certify such units or combustion systems as compliant with subdivision (e).~~

~~(2) — Confirmation of Emissions~~

~~Any manufacturer's or distributor's application to the Executive Officer to certify a model of unit or combustion system as compliant with the emission limit and demonstration requirement of subdivision (e) shall obtain confirmation from an independent contractor that is approved by the Executive Officer under the Laboratory Approval Program for the necessary test methods prior to applying for certification that each unit model complies with the applicable requirements of subdivision (e). This confirmation shall be based upon SCAQMD approved emission tests. A SCAQMD approved protocol shall be adhered to during the confirmation testing of all units and combustion systems subject to this rule. Emission testing shall comply with the requirements of paragraphs (d)(1) through (d)(6) except that emission testing shall be conducted at greater than 90% rated heat input capacity and additional emission testing shall be conducted at a heat input of less than 35% of the rated heat input capacity.~~

Current Subdivision (e) – Unit Certification

- Entire subdivision deleted (only showing first two paragraphs)
- Replaced by new subdivision (h)

Existing Rule 1153.1 currently has MRR requirements in multiple subdivisions

- Added subdivision to consolidate MRR requirements
- Most provisions are not new

Added provision to clarify that RECLAIM facilities will continue to be subject to MRR requirements in Regulation XX until facility exits RECLAIM

**New
Subdivision (j):**

**Monitoring,
Recordkeeping,
and Reporting
(MRR)**

Subdivision (j) MRR (*cont.*)

- Rule 1153.1 had MRR requirements in multiple subdivisions
- Paragraph (j)(1), (j)(2), and (j)(3) are updated language and MRR requirements moved into subdivision (j)

Paragraph (j)(1)

(j) Monitoring, Recordkeeping, and Reporting Requirements

- (1) An owner or operator of a certified Unit pursuant to paragraph (h)(1) shall maintain records of Unit installation, operation, maintenance, repair, Combustion System modification, and test records of owners, operators, manufacturers, distributors, retailers, and installers of Units located in the South Coast AQMD, and conduct such tests as are deemed necessary to ensure compliance with this rule.

Paragraph (j)(2)

- (2) An owner or operator of a Unit shall maintain on site a copy of all documents identifying the Unit's Rated Heat Input Capacity. The Rated Heat Input Capacity shall be identified by a manufacturer's or distributor's manual or invoice and permanent rating plates attached to the Unit and individual burners.

Paragraph (j)(3)

- (3) An owner or operator of a Unit shall display and maintain the model number and Rated Heat Input Capacity of the Unit burner(s) on a permanent rating plate.

Subdivision (j) MRR (*cont.*)

- Paragraph (j)(4) language was added and mirrors Rule 1147 labeling requirements
- Paragraph (j)(5) was originally paragraph (c)(6) in requirements of Rule 1153.1

Paragraph (j)(4)

(4) The owner or operator of a Unit that is modified shall:

- (A) Display the new Rated Heat Input Capacity on a new permanent supplemental rating plate installed in an accessible location on the Unit or burner; and
- (B) Determine the date of Unit Modification pursuant to the burner age determination requirements of subdivision (f).

Paragraph (j)(5)

(5) An owner or operator of a Unit subject to subdivision (g) shall maintain the following records on site at the facility where the Unit is being operated:

- (A) A copy of the written maintenance schedule and instructions by the manufacturer, distributor, installer, or maintenance company and retain a record of the maintenance activity for a period of not less than five years;
- (B) A copy of the South Coast AQMD certification or the South Coast AQMD approved source test reports, conducted by an independent third party, demonstrating that the specific Unit complies with the applicable emission limit; and
- (C) Source test report(s) that identify that the source test was conducted pursuant to a South Coast AQMD approved Source Test Protocol. The model and serial numbers of the specified Unit shall clearly be indicated on the source test report(s).

Subdivision (j) MRR (*cont.*)

- Paragraph (j)(6) was originally paragraph (d)(5) in compliance determination in Rule 1153.1
- Paragraphs (j)(7) and (j)(8) are new provisions added for units requiring a totalizing fuel or time meters

Paragraph (j)(6)

- (6) Records of source tests shall be maintained on site for at least five years and made available to the Executive Officer upon request.

Paragraph (j)(7)

- (7) An owner or operator of a Unit requiring a non-resettable totalizing fuel meter to comply with any provision in this rule shall:
- (A) On or before January 1, 2024, install and operate a non-resettable totalizing fuel meter, unless a metering system is currently installed, and the fuel meter is approved in writing by the Executive Officer;
 - (B) Each non-resettable totalizing fuel meter shall be equipped with a permanent supply of electric power that cannot be unplugged, switched off, or reset except by the main power supply circuit for the building and associated equipment or the safety shut-off switch;
 - (C) Ensure that the continuous electric power to the non-resettable totalizing fuel meter may only be shut off for maintenance or safety; and
 - (D) Ensure each non-resettable totalizing fuel meter is calibrated and recalibrate the meter annually, thereafter, based on the manufacturer's recommended procedures. If the non-resettable totalizing fuel meter was calibrated within one year prior to January 1, 2024, the next calibration shall be conducted within one year of the anniversary date of the prior calibration.

Subdivision (j) MRR (*cont.*)

- Paragraph (j)(8) includes requirements for time meters similar to most NOx rules
- Paragraph (j)(9) new language requiring facilities to maintain records for five years if they elect to comply with the one pound or less of NOx per day

Paragraph (j)(8)

(8) An owner or operator required to monitor and maintain hours of operation records shall install a non-resettable totalizing time meter or equivalent method approved in writing by the Executive Officer.

Paragraph (j)(9)

(9) An owner or operator of a Unit complying with the NOx emission limit of one pound or less per day in paragraph (d)(3) as demonstrated pursuant to subdivision (i) shall keep daily records documenting the use of the Unit, including, but not limited to, time records of Unit operation using a unit-specific non-resettable time meter, daily fuel consumption documented using a non-resettable fuel meter, and daily process rate. Daily records shall be retained on site for at least five years and be made available to the Executive Officer upon request.

Subdivision (j) MRR (*cont.*)

- Paragraph (j)(10) was originally subparagraph (g)(2)(E) in exemptions of Rule 1153.1
 - Language was updated and moved to subdivision (j) in PAR 1153.1

Paragraph (j)(10)

(10) An owner or operator of a Unit complying with the NOx emission limit of one pound or less per day in paragraph (d)(3) as demonstrated pursuant to subparagraph (i)(2)(C) shall keep daily records documenting fuel gas consumption with a non-resettable fuel meter and a test protocol, calculations, and results of a test of gas pressure to the meter conducted by the local utility or an independent contractor. The documentation of gas pressure to the meter shall include a letter stating that the test was performed using the approved test protocol and the letter shall be signed by the person performing the test. Records shall be retained on site for at least five years and be made available to the Executive Officer upon request.

Current Subdivision (f) – Enforcement

(f) Enforcement

- (1) ~~The Executive Officer may inspect certification records and unit Unit installation, operation, maintenance, repair, combustion system Combustion System modification, and test records of owners, operators, manufacturers, distributors, retailers, and installers of units Units located in the SCAQMD South Coast AQMD, and conduct such tests as are deemed necessary to ensure compliance with this rule. Tests shall include compliance determinations, as specified in subparagraphs (d)(1) through (d)(4), (d)(6), and (d)(7) (g)(4)(F).~~
- (2) ~~A compliance determination specified under paragraph (fj)(1) that finds emissions in excess of those allowed by this rule shall constitute a violation of this rule.~~

- Subdivision deleted
- Similar language to current paragraph (f)(2) added to the end of subdivision (g) Source Test Requirements and subdivision (h) Compliance by Certification

Most exemptions remain unchanged

Some provisions listed as exemptions were moved

- One pound a day alternative limit
- Demonstration for the one pound a day limit

Deleted the RECLAIM Exemption

- This is a proposed change from the preliminary draft language

Subdivision (k): Exemptions

Subdivision (k) Exemptions (*cont.*)

- Added rule names to subparagraph (k)(1)(A)
- Deleted subparagraph (k)(1)(B) since rule only applicable to permitted units
- Clarified subparagraph (k)(1)(F)

(gk) Exemptions

(1) The provisions of this rule shall not apply to:

(A) Boilers, water heaters, thermal fluid heaters, or process heaters, including, but not limited to those that provide heat to a Unit through a heat exchange system, subject to the following ~~SCAQMD~~ South Coast AQMD rules:

(i) Rules 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters;

(ii) Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters; ~~or~~

(iii) Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters; ~~or, including but not limited to those that provide heat to a unit through a heat exchange system;~~

(iv) Rule 1147.

~~(B) Units subject to registration pursuant to SCAQMD Rule 222;~~

~~(CB) Units regulated under Regulation XX, until the facility becomes a Former RECLAIM Facility;~~

~~(DC)~~ Solid fuel-fired combustion equipment;

~~(ED)~~ Charbroilers as defined by Rule 1147;

~~(FE)~~ Fryers, including fryers used for nut, seed, or other food product oil roasting; and

~~(GF)~~ Emission control equipment, including but not limited to afterburners, thermal oxidizers, and vapor incinerators as defined by Rule 1147.

Proposing to delete RECLAIM exemptions

- Facilities should all be on the same compliance schedule
- AB 617 emphasizes retrofitting units that have not modified emissions-related permit conditions for the greatest period of time

Subdivision (k) Exemptions (*cont.*) (*preliminary draft version*)

- Added paragraph (k)(2) for bakery oven performing near proposed NOx limit in Table 1
- Establishes permit application submittal requirements for unit

- (2) The owner or operator of a Bakery Oven installed prior to [Date of Rule Adoption] shall not be subject to the applicable NOx Emission Limits in Table 1, provided the owner or operator submits a complete permit application for a permit condition that limits the NOx to 35 ppmv and the CO emissions to 800 ppmv according to the schedule in paragraph (e)(5) and the Unit:
- (A) Does not have an existing permit condition limiting the NOx emissions to 30 ppmv or less;
- (B) Is not operating at 30 ppmv or less; and
- (C) Is not operating above 40 ppmv NOx.

Subdivision (k) Exemptions (*cont.*) (*preliminary draft version*)

- Staff proposes moving to subdivision (d) requirements
- Requirements are the same and will be referred to as conditional concentration limit

Proposing to Move Paragraph (k)(2) to Subdivision (d)

(2) Conditional Concentration Limit

In lieu of complying with the emission limits in Table 1, an owner or operator of a Bakery Oven may elect to comply with a 35 ppmv NO_x limit and an 800ppmv CO limit if they meet the following:

- (A) The unit was installed prior to [Date of Rule Adoption];
- (B) The owner or operator submits a complete permit application for a permit condition that limits the NO_x to 35 ppmv and the CO emissions to 800 ppmv according to the schedule in paragraph (e)(4); and
- (C) The Unit:
 - (i) Does not have an existing permit condition limiting the NO_x emissions to 30 ppmv or less;
 - (ii) Is not operating at 30 ppmv or less; and
 - (iii) Is not operating above 40 ppmv NO_x.

Emission Reductions, Cost-effectiveness, and Incremental Cost-Effectiveness

Emission Reductions

- Emission reductions were calculated on a per unit basis for all units impacted by the rule using:
 - Annual Reported Emissions
 - Current Permit Limit or Emission Factor
 - Source Test Results (if available)
 - Proposed BARCT Limits
- Proposed Amended Rule 1153.1 will reduce NO_x emissions from applicable units by:
 - 0.017 tons per day (tpd)

Cost-Effectiveness

- Cost-effectiveness is calculated using Discounted Cash Flow (DCF) Method
- Cost were obtained from:
 - Meetings and discussions with vendors
 - Vendor quotes
 - Facility equipment survey
 - Meeting and discussions with stakeholders
- Cost-effectiveness is calculated using emission reductions from existing permit limits and source test results (if available)
- One category identified as having a cost-effectiveness of “no additional cost” due to already meeting the proposed BARCT limit

Incremental Cost-Effectiveness

- Incremental cost-effectiveness assessment is to evaluate progressively more stringent potential control options
- Staff identified the following control options:
 - Low NOx burners (LNB)
 - Selective Catalytic Reduction (SCR) systems
 - Low Temperature Oxidation (LoTOx™)
- SCR or LoTOx applications deemed infeasible
- No progressively more stringent control was feasible
 - Incremental cost-effectiveness was not conducted

Cost-Effectiveness by Category

- Cost effectiveness was evaluated for all units that will have to replace burners to achieve the proposed limits
- Rule schedule requires units to meet limits after useful life, minimizing costs to facilities

Equipment Category	BARCT NOx Emission Limit	Cost-Effectiveness
Bakery Ovens	30 ppmv	\$46,000
Tortilla Ovens	30 ppmv	\$22,000
Tortilla Ovens (Firing IR Burners Only)	15 ppmv	No Additional Cost*
Other Food Ovens	30 ppmv	\$19,000
Roasters	30 ppmv	\$49,000

*proposed BARCT limit is currently being achieved, no further action is required

Socioeconomic Impact Assessment and California Environmental Quality Act (CEQA)

Socioeconomic Impact Assessment

- California Health and Safety Code Section 40440.8
 - Requires socioeconomic impact assessment for proposed rule or rule amendment which “will significantly affect air quality or emissions limitations”
 - Socioeconomic impact assessment shall consider:
 - Type of affected industries, including small businesses
 - Range of probable costs, including costs to industry or business
 - Impact on employment and regional economy

California Environmental Quality Act (CEQA)

- The proposed project (PAR 1153.1) does not have any project requiring physical modifications that would cause significant adverse effect on the environment
- The proposed project is exempt from CEQA and a Notice of Exemption will be prepared pursuant to:
 - CEQA Guidelines Section 15061 (b)(3) – Common Sense Exemption, which exempts activities where it can be seen with certainty that there is no possibility that the activities may have a significant adverse effect on the environment

Next Steps



End of Comment Period on October 21, 2022



Stationary Source Committee on October 21, 2022



Set Hearing on November 4, 2022



Public Hearing on December 2, 2022

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