

Proposed Amended Rule 1153.1

Emissions of Oxides of Nitrogen from Commercial Food Ovens

Working Group Meeting #5
September 23, 2022

Join Zoom Webinar Meeting

<https://scaqmd.zoom.us/j/99936500985>

Teleconference Dial-In: 1-669-900-6833

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Agenda

Summary of WGM #4

Progress Since WGM #4

Preliminary Draft Rule Language

Next Steps

Summary of Working Group Meeting #4

- Micron Fiber-Tech presented and discussed low NOx combustion technology for commercial food ovens
- Staff presented:
 - Overview of food oven categories and technology considerations
 - Burner cost curve and cost estimation methodology
 - Cost-effectiveness analysis
 - Proposed NOx limits for food oven categories

**Progress
Since
Working
Group
Meeting #4**

Continued meeting with stakeholders

Released preliminary draft rule language and preliminary draft staff report on September 16, 2022

Scheduled Public Workshop for Thursday, October 6, 2022

Summary of Preliminary Draft Rule Language

Released September 16, 2022

Intent of the Proposed Changes to Rule 1153.1

- PAR 1153.1 includes significant restructuring and updating
 - Most overall requirements have not changed
 - Consolidated monitoring, reporting, and recordkeeping (MRR) and compliance dates into separate subdivisions
- Intent was to align the provision with Rules 1147 and 1147.1
 - Many facilities subject to multiple rules, having parallel requirements helps simplify compliance
- Some new requirements added to provide clarity, support flexibility in compliance options, and address issues raised by stakeholders including:
 - Determining burner age
 - Decommissioning a unit
 - Source testing for multiple units
 - Allowing the one pound per day NO_x limit to be averaged over a calendar month
 - Requirements if a unit exceeds a limit

Key Rule Updates Summary

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- Removed outdated language and subdivisions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

Rule Structure Updates 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 – Subdivision (a)

and

Applicability – Subdivision (b)

- Purpose and Applicability divided into separate subdivisions
- Updated applicability to include newly defined food oven categories:
 - Bakery Ovens, Tortilla Ovens, Dryers, Smokehouses, Food Ovens, and Roasters
- Removed reference in applicability to Rule 1147 – NO_x Reductions from Miscellaneous Sources including reference to paragraph (d)(7)
 - Rule 1147 only applicable when units are not subject to other Regulation XI rule
 - PAR 1153.1 added provisions from Rule 1147 paragraph (d)(7)

Definitions - Subdivision (c)

- Added 12 new definitions
- Removed 6 definitions that are not used in the rule
- The following key definitions were added to provide clarity on defined food oven categories:
 - Bakery Oven
 - Dryer
 - Other Food Ovens
 - Smokehouse
 - Tortilla Oven
- Added definitions to address RECLAIM transition
 - Former RECLAIM Facility
 - Non-RECLAIM Facility
 - RECLAIM Facility

Requirements – Subdivision (d)

Updated Table 1 NOx Limits and added CO Limits

Updated Table of Emission Limits

Table 1 – NOx and CO Emission 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	

ppmv corrected to 3% O₂ unless otherwise specified

Requirements – Subdivision (d)

Added Interim Limits and Compliance Options

- Added the interim NOx limit of 102 ppmv in paragraph (d)(2):
 - Interim limits apply if a RECLAIM facility exits RECLAIM before limits in PAR 1153.1 go into effect
- Added the following compliance options:
 - NOx limits in Table 1
 - NOx limit of one pound or less per day
 - Allows for NOx emissions demonstration based on a daily average or monthly average
 - New subdivision (i) establishes requirements for demonstrating one pound per day emission limit
 - Decommission a unit

Requirements – Subdivision (d)

Removed Outdated Provisions

- Removed the following outdated rule language:
 - Compliance schedule (Table 2)
 - Unit age
 - Identification of Units
 - Compliance by Certification
 - Replaced with Compliance by Certification subdivision
 - Alternative Compliance Plan for Multiple Units
 - Alternative plan deemed unnecessary because proposed schedule has phased in limits based on burner age

Compliance Schedule – Subdivision (e)

- New subdivision that includes all compliance dates
- Establishes permit application submittal date and date to comply with limits
 - Permit submittal for Table 1 based on burner life
 - Submit permit when burner has been in operation for 22 years
 - Unit must comply within 12 months of permit issuance, unless extension granted, or no later than 25-year burner life, whichever is sooner
- Compliance dates to meet:
 - NOx limit at the end of burner useful life
 - One pound or less of NOx per day limit
 - Decommissioning of a unit
- Compliance schedule to meet Table 1 limits if:
 - Exempt bakery oven exceeds 35 ppmv NOx, or
 - Unit that exceeds one pound NOx per day
- Compliance schedule for a unit to conduct a source test if it fails to comply with compliance certification requirements

Burner Age – Subdivision (f)

- Subdivision establishes requirements for determining burner age
 - Provision mirrors Rule 1147 requirements
- Key highlights:
 - Units equipped with multiple burners of varying ages will be based on the oldest burner
 - Burner age based on original installation date and determined by the following:
 - Invoice
 - South Coast AQMD permits
 - Manufacturer's identification
 - Written information

Source Test Requirements – Subdivision (g)

- Renamed subdivision, formerly Compliance Determination
 - Updated provisions and moved existing MRR requirements to separate subdivision
- Key highlights:
 - Establishes requirements for source test protocol, approval, and renewal
 - Establishes source test schedule of every five years
 - Expanded source test options for equipment with multiple units in series to include units regulated under Rule 1147
 - Some ovens share a common exhaust with afterburners, thermal oxidizers, and regenerative thermal oxidizers
 - Test each unit separately
 - Test unit at the end of the series and use weighted limit

Compliance by Certification – Subdivision (h)

- Option allows a facility to demonstrate compliance by manufacturer emissions certification in lieu of source testing requirements
- Expanded provision from original “units that do not allow adjustment of fuel and combustion air” to units under 2 million Btu per hour
 - Mirrors recently updated language from Rule 1147
- Consolidated into separate subdivision (h)
- Key highlights:
 - Revised and expanded to include units with a rated heat input capacity of 2 MMBtu/hr or less
 - Recordkeeping requirements for compliance by certification moved to MRR requirements

Demonstration of one pound or less per day – Subdivision (i)

- Existing Rule 1153.1 includes provisions to demonstrate a unit is emitting one pound of NO_x or less per day in exemption subdivision
 - Moved to a separate subdivision and expanded to allow monthly demonstration
- Key highlights:
 - One pound per day or less demonstration option expanded to include emissions being averaged over a calendar month to mirror Rule 1147
 - Monthly demonstration using:
 - Monthly hourly limit specified in Table 3
 - Monthly hourly limit calculation (equation 1)
 - Monthly therm limit calculation (equation 2)
 - Daily demonstration moved from exemption subdivision

Monitoring, Recordkeeping, and Reporting (MRR) – Subdivision (j)

- Existing Rule 1153.1 currently has MRR requirements in multiple subdivisions
- Added new subdivision to consolidate requirements
- Moved existing labeling requirements
- Added requirements for source test and maintaining records for five years
- Moved requirement to install and maintain fuel and time meters
 - Updated language and added calibration requirements
- Added provision to clarify RECLAIM facilities will continue to be subject to MRR requirements in Regulation XX until facility exits RECLAIM

Exemptions – Subdivision (k)

- Removed the following:
 - Exemption for units subject to Rule 222 which do not require a permit
 - Deemed not necessary as rule specifically states it is only applicable to permitted units
 - Source test exemption for units heated solely with infrared burners
- Clarified the following:
 - Unit(s) at a RECLAIM facility are exempt until they become a former RECLAIM facility
 - Unit(s) subject to Rule 1147 are exempt, e.g., afterburners, thermal oxidizers, and vapor incinerators

Exemptions – Subdivision (k) (*cont.*)

- Moved daily NOx emissions of one pound or less per day demonstration to separate subdivision
- Added a near limit exemption for bakery ovens in operation prior to rule adoption:
 - NOx emissions must be greater than 30 ppmv **and** less than or equal to 40 ppmv
 - Must submit a permit application for a permit condition that limits the NOx to 35 ppmv and the CO emissions to 800 ppmv

Removed the following subdivisions:

(e) Certification

(f) Enforcement

(h) Mitigation Fee Compliance Option

- Replaced with new subdivision (h) Compliance by Certification
- Moved provisions to other subdivisions
- Outdated compliance option

Next Steps



Continue Meeting with Stakeholders



Public Workshop – October 6, 2022



Stationary Source Committee – October 21, 2022



Set Hearing – November 4, 2022



Public Hearing – December 2, 2022

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Rule Updates:

<input type="checkbox"/> Rule 1151	Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations
<input checked="" type="checkbox"/> Rule 1153.1	Emissions of Oxides of Nitrogen from Commercial Food Ovens
<input type="checkbox"/> Rule 1159.1	Control of NOx Emissions from Nitric Acid Tanks

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