VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 74.34 –NOX REDUCTIONS FROM MISCELLANEOUS SOURCES
(Adopted 12/13/2016)

A. Purpose and Applicability

The purpose of this rule is to reduce emissions of oxides of nitrogen (NOx) and carbon monoxide (CO), and it applies to dryers, furnaces, heaters, incinerators, kilns, ovens, and duct burners. This rule applies to any unit where the total rated heat input for the unit is 5 million BTU per hour or greater.

B. Requirements

1. **Emission Limits**: Effective July 1, 2018, no person shall own or operate a unit subject to this rule in a manner that exceeds the applicable nitrogen oxide limit specified in Table 1, and owners or operators modifying, replacing, or installing equipment in order to comply with these emission limits shall meet the Increments of Progress pursuant to Subsection B.2:

Table 1: NOx Emission Limits

Equipment Category		
Asphalt Manufacturing (Dryer)	40 ppm (0.048 lb/MMBTU heat input)	
Sand and Gravel Processing (Dryers)	40 ppm (0.048 lb/MMBTU heat input)	
Paper Products Manufacturing (Hot Air Furnace, Duct Burner, Paper Dryer)	40 ppm (0.048 lb/MMBTU heat input)	
Metal Heat Treating/ Metal Melting Furnace	60 ppm (0.072 lb/MMBTU heat input)	
Kiln	80 ppm (0.096lb/MMBTU heat input)	
Equipment Category	**Process Temp < 1200^{o}F**	**Process Temp >or= 1200^{o}F**
Oven, Dryer (besides asphalt, sand or paper dryer), Heater, Incinerator, Other Furnaces, or Other Duct Burner (Not Listed Above in Table 1)	30 ppm (0.036 lb/MMBTU heat input)	60 ppm (0.072 lb/MMBTU heat input)

Carbon monoxide emissions from units subject to this rule shall not exceed 400 ppm (0.30 lb/MMBTU heat input). The NOx ppm emission limitations are expressed as nitrogen dioxide, and the ppm emission limits for both NOx and CO are referenced at 3 percent by volume oxygen stack content on a dry basis. Units may comply with the applicable lb/MMBTU emission limit in lieu of the associated ppm limit.

2. **Increments of Progress for Units Coming into Compliance with NOx Limits (Subsection B.1)**:

a. Apply for an Authority to Construct before July 1, 2017.
b. Initiate construction or equipment installation or modification before January 1, 2018.
c. Demonstrate compliance via emission source test before July 1, 2018.

3. **Alternate Final Compliance Schedule**: Notwithstanding the effective date of July 1, 2018, Subsection B.1, a permitted facility with two or more units requiring NOx emissions reducing equipment modifications needed to comply with the NOx emission limits in Subsection B.1, may submit an alternate final compliance schedule as follows:

a. Qualifying facilities shall notify the District in writing or via electronic submittal prior to March 1, 2017, to be eligible for the new compliance schedule.

b. All units shall comply with the applicable NOx emission limits prior to July 1, 2020, while meeting all increments of progress deadlines pursuant to Subsection B.2 with each increment delayed by two years.

4. **Alternate Compliance Plan for Existing Direct-Fired Clay Kilns**: Any existing permitted direct-fired kiln operating prior to this rule adoption date and processing clay materials shall be considered to be in compliance with the emission limits in Subsection B.1 provided all the following conditions are met:

a. Each Unit shall be equipped with:

1) Low-NOx Burner(s) and an Automatic Combustion Air-Fuel Ratio Control System that is operated and maintained using good engineering practices to minimize NOx emissions, or

2) An alternate NOx reduction control system determined by the APCD to have equal to or greater NOx reduction control characteristics than the system specified in Subsection B.4.a.1., and is operated and maintained using good engineering practices to minimize NOx emissions.

b. An Authority to Construct Application shall be submitted and the unit shall be independently source tested prior to the applicable compliance deadline.

c. The NOx emissions from each retrofitted kiln operating at minimum NOx emission rate using good engineering practices or burner manufacturer's recommendations shall be determined using independent NOx emission source test data measured in accordance with Section E, Test Methods and Procedures under steady-state operating conditions, and calculated at the

rated maximum operating rate, which will establish a new permit condition limiting NOx emissions in terms of pounds per hour, and require source testing every four years with intervening annual screenings in accordance with Subsection B.6. Notwithstanding these source test results, this new NOx permit condition emission limit shall be established at not less than 3.9 pounds NOx per hour per kiln.

5. **Compliance Testing and Emission Screening:** All units subject to NOx emission limits shall test for NOx and CO emission (CO emission testing only required if subject to CO emissions limit) compliance prior to July 1, 2018 (except as allowed by an approved Alternative Final Compliance Schedule in Subsection B.3), upon initial installation (if new, modified or replaced equipment), and not less than once every 48 months thereafter, and shall perform an annual screening analysis of NOx and CO emissions no later than 30 days after the anniversary date of the previous source test. If a unit is modified to comply with the NOx emissions limits of this rule, then the unit shall be source tested and test report submitted to verify compliance within 6 months of the modification. The requirement for annual screenings is waived if performing a source compliance test. The APCD shall be notified at least 15 days prior to the source compliance test, and at least 3 days prior to an annual screening. Both source test reports and emission screening results shall be submitted to APCD no later than 45 days after the applicable test date.

6. **Combustion System Maintenance:** Any owner or operator of a combustion unit subject to this rule shall perform combustion system maintenance in accordance with the manufacturer's schedule and specifications as identified in the manual and other written materials supplied by the manufacturer or distributor, or according to good engineering practices focused on reliability and emission controls and documented in a site specific combustion and emission control systems maintenance plan prior to final unit compliance deadline and available onsite and upon request by APCD personnel.

7. **Compliance Statement**: Prior to July 1, 2017, any person owning or operating a unit or units subject to this rule shall submit a signed and dated Compliance Statement to the APCO that provides an inventory of all applicable units and their compliance status relative to the NOx and CO emission limits in Subsection B.1. Persons claiming unit compliance shall provide unit emissions data that demonstrate compliance with Subsection B.1.

C. Exemptions

1. This rule shall not apply to:

a. Combustion equipment whose primary function is to operate as an air pollution control device including, but not limited to, afterburners, catalytic oxidizers, flares, thermal oxidizers, or vapor incinerators.

b. Duct burners operating upstream of and controlled by a properly working Selective Catalytic Reduction (SCR) add-on NOx control unit that complies with all pertinent APCD permit conditions.

c. Gas flares.

d. External combustion equipment subject to Rule 74.15, Boilers, Steam Generators, and Process Heaters.

2. The NOx and CO emission limits pursuant to Subsection B.1 shall not apply to:

a. Yankee Hood furnaces or Hot Air furnaces operated at a sanitary paper products manufacturing facility (SIC Code 2676).

b. Units having an annual heat input rate of less than 9×10^9 BTUs per calendar year provided all the following conditions are met:

1) A totalizing fuel meter for each applicable unit shall be installed and shall be used to demonstrate that the annual heat input is below the applicable heat input level. Totalizing fuel meter readings shall be recorded monthly, shall be maintained for a period of four years, and shall be made available to APCD staff upon request.

2) NOx emissions for each unit shall not exceed 0.096 pounds of NOx per MMBTU heat input (80 ppm at 3 percent oxygen).

D. Recordkeeping Requirements

1. Sources subject to the emission compliance testing and emission screening requirements pursuant to Subsection B.5 shall maintain records of both compliance test reports and emission screening results. These records shall be maintained for a minimum of 4 years, and shall be made available to APCD personnel upon request.

2. Sources subject to the requirements of Subsection B.6 shall maintain records of combustion system maintenance including, but not limited to: written maintenance schedule, log and description of maintenance activities. These records shall be maintained for a minimum of 4 years, and shall be made available to APCD personnel upon request.

E. Test Methods and Procedures

1. Compliance with the emission requirements in Subsections B.1, B.4, and C.2.b.2 shall be determined using ARB Method 100 for oxides of nitrogen, carbon monoxide, and stack gas oxygen. An alternative procedure for determining emission compliance in units of lb/MMBTU heat input shall be based on the South Coast AQMD "Compliance Protocol for the Measurement of Nitrogen Dioxide, Carbon Monoxide, and Oxygen From Sources Subject to SCAQMD Rules 1146 and 1146.1" dated March 10, 2009.

2. Emissions compliance tests shall be conducted on units after unit startup in "as-found" operating conditions, averaged over a period of at least 30 minutes and no more than 60 minutes. All emission measurements shall be made representative of normal operations and if applicable, conditions specified in the APCD Permit to Operate.

3. Screening analyses required pursuant to Subsection B.5 shall be performed using a portable analyzer calibrated, maintained, and operated in accordance with the manufacturer's specifications or as approved in writing by the APCO. Portable analyzer operators shall undergo training on the operation of the analyzer for proper use.

F. Violations

1. Failure to comply with any provision of this rule shall constitute a violation of this rule.

2. An applicable unit shall be in violation if, according to a screening analysis, it is operated out-of-compliance with the requirements of Subsection B1 as follows. All out-of-compliance screening analyses shall be reported to the APCD within 7 calendar days. The owner or operator shall complete corrective actions, and a second screening analysis shall be performed within 14 calendar days of the initial screening analysis. The results of the second analysis shall be reported to the APCD within 7 days. If the unit remains out-of-compliance, it shall be considered to be in violation of this rule. Resolution of this violation may be determined using a screening analysis or an emissions source test.

G. Definitions

1. "Dryer": A device in which material is dried or cured in direct contact with the products of combustion, including, but not limited to, asphalt dryers, sand dryers, process dryers, and drying hoods.

2. "Duct Burners": Any combustion equipment installed on existing ductwork and designed to further heat exhaust gases, to promote process drying or to preheat

exhaust prior to the entrance to a Selective Catalytic Reduction (SCR) control unit.

3. "Furnace": An enclosed chamber in which heat is produced by a combustion source for any of the following purposes (excluding gas flaring):
   a. Pyrolysis processing
   b. Smelting or refining ores
   c. Metal melting or metal heat treating
   d. Glass manufacturing
   e. Incinerator

4. "Gas Flare": Gas flares are primarily used for burning off flammable gas released by pressure relief valves during unplanned over-pressuring of plant equipment. During plant or partial plant startups and shutdowns, flare stacks are also often used for the planned combustion of gases over relatively short periods. Gas flares may also be used to control landfill gas emissions, sewage treatment digester gas emissions, and oilfield waste gas emissions.

5. "Heater": Any combustion equipment that transfers heat from combusted fuel to materials or air contained in the unit or in an adjoining cabinet, container, or structure. Heaters do not include boilers or process heaters subject to Rule 74.15. Heaters do not include any combustion equipment that can be defined elsewhere in this rule including, but not limited to, dryers, furnaces, hot air furnaces, incinerators, kilns, ovens, or duct burners.

6. "Hot Air Furnace": Hot gas generating combustion equipment suitable for direct drying of paper products or other direct drying processes.

7. "Incinerator": An Incinerator is any furnace used to combust waste, or oxidize contaminants to less harmful forms.

8. "Kiln": Any thermally insulated chamber, a type of oven, which produces temperatures sufficient to complete some process, such as hardening, drying, vitrification, or chemical changes. Various industries and trades use kilns to vitrify objects made from clay into aggregate, pottery, tiles and bricks. Various industries use rotary kilns for pyroprocessing — to calcinate ores, produce cement, lime, and other materials.

9. "Low-NOx Burner(s)": Any combustion natural gas-fueled burner advertised and designed by the manufacturer to achieve significantly lower NOx emissions than a conventional burner, and usually involves the premixing of the combustion air and gas fuel in the nozzle or prechamber.

10. "Metal Heat Treating": Any metalworking processes used to alter the physical, and sometimes chemical, properties of a material. Metal heat treating involves the

use of heating, normally to extreme temperatures, to achieve a desired result such as hardening or softening of a material. Metal heat treating techniques include but are not limited to, annealing, case hardening, precipitation strengthening, and tempering.

11. "MMBTU": One million British thermal units.

12. "Oven": Any thermally insulated chamber used for the heating, baking or drying of a substance.

13. "Process Temperature": For the purpose of this rule, the process temperature of a unit shall be considered to be the maximum operating temperature of the unit under maximum designed production rate.

14. "Rated Heat Input Capacity": The heat input capacity specified on the nameplate of the unit's burner. If the burner has been permanently altered or modified such that the maximum heat input is different than the input capacity specified on the nameplate, and this alteration or modification has been approved in writing by the Air Pollution Control Officer, then the new maximum heat input shall be considered as the rated heat input capacity.

    If a unit controls more than one burner, then the rated heat input capacity is the sum of the maximum heat input for each of the affected burners. If a burner(s) can be operated independently as a separate unit with its own exhaust stack, then the maximum heat capacity for that unit is based on the rated heat input of that burner(s).

    For the purpose of determining rule applicability or final compliance schedule, a coffee roaster (or other combustion unit) and its associated afterburner emission controls are to be considered as separate independent units, where the rated heat input capacity is determined separately for each unit, even though they may share the same exhaust stack or operating controls.

15. "Start-Up": The period of time during which a unit is brought from a shutdown status to its normal operating temperature and pressure.

16. "Unit": Any dryer, furnace, heater, incinerator, kiln, oven, or duct burner that is subject to this rule.

17. "Yankee Hood Furnaces": A high-speed hot air drying apparatus that works with high-speed sanitary paper machines or specialty paper machines. The drying capacity is four to 10 times higher than conventional dryers because it combines contact drying and convection drying together.