

United States Environmental Protection Agency, Region IX

Air & Toxics Division

Technical Support Document

for

EPA's Notice of Proposed Rulemaking

for the

California State Implementation Plan

South Coast Air Quality Management District

Rule 1146.1

Emissions of Oxides of Nitrogen

from Small Industrial, Institutional, and Commercial

Boilers, Steam Generators, and Process Heaters

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August 1, 1995

Agency: South Coast Air Quality Management District (SCAQMD)

Submitted Rule:

Rule Number: 1146.1

Title: Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters

Submittal Date: July 13, 1994

District Adoption Date: May 13, 1994

Applicable SIP Rule: none

Rule Summary:

Applicability

Boilers, steam generators, and process heaters with rated heat input capacity (RHIC) between 2 and 5 MBtu/hr, used in all industrial, institutional, and commercial operations.

Emission Limits

- 1) 30 ppm NO_x or 0.037 lb NO_x/MBtu, and 400 ppm CO.
- 2) Units with annual heat input of 18,000 therms or less have the option of maintaining stack gas oxygen levels at 3 percent or less, or performing tune-ups twice a year.

Recordkeeping

Recordkeeping requirements listed in the rule:

- (c)(2)(B): verification of tune-ups.
- (f)(2): annual fuel use data for exemptions based on annual heat input.
- (d)(4): records of all source tests.

Averaging times

Emission limits are referenced at 3% by volume stack gas oxygen on a dry basis averaged over a period of 15 consecutive minutes.

Test Methods

- For NOx and CO: District Method 100.1, or Method 7.1 and Method 10.1
- For lb/MBtu limit: EPA Method 19
- Equipment Tuning Procedure (provided in attachment to rule)

Alternative methods must first be approved by the district, CARB, and EPA.

Increments of Progress

Owners of units subject to the emission limits of section (c)(1) must demonstrate compliance by July 1, 1994.

Owner of units subject to section (c)(2) must demonstrate compliance by December 31, 1993.

Rule Evaluation and Proposed Action:

1. Evaluation

SCAQMD Rule 1146.1 was evaluated against reasonably available control technology (RACT) requirements and enforceability requirements. As discussed in the "NO_x Supplement to the General Preamble," ("State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990", U.S.EPA, 57 FR 55620, November 25, 1992) EPA is required to issue alternative control technique documents (ACTs) which provide information on NO_x control technologies for a particular source category. The ACTs applicable to this rule are entitled, "Alternative Control Techniques Document -- NO_x Emissions from Process Heaters," EPA-453/R-93-034; and "Alternative Control Techniques Document -- NO_x Emissions from Industrial/Commercial/Institutional Boilers," EPA-453/R-94-022. The ACTs can be used to assist the State in making RACT determinations, but the ACTs themselves do not establish a presumptive RACT.

The California Air Resources Board (CARB) has made a RACT determination for this category, and the published guidance applicable to SCAQMD Rule 1146.1 is entitled, "Determination of Reasonably Available Control Technology and Best Available Retrofit Control Technology for Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters." The CARB RACT determination considered factors such as available control equipment, emission reductions, and cost-effectiveness. EPA agrees that the emission limits in SCAQMD Rule 1146.1 are consistent with guidance and policy for making RACT determinations, and that these limits satisfy the RACT requirement. Additionally, SCAQMD Rule 1146.1 goes beyond the scope of the CARB RACT determination by regulating units with RHIC less than 5 MBtu/hour.

In addition to RACT requirements, Rule 1146.1 was reviewed against EPA criteria and policy regarding the enforceability of SIPs and SIP revisions. Enforceability elements include items such as test methods, recordkeeping, and compliance determinations. This policy is outlined in various documents and memoranda, including the documents listed below:

- 1) "Issues Relating to VOC Regulation, Cutpoints, Deficiencies, and Deviations: Clarification to Appendix D of November 24, 1987 Federal Register" (the "Blue Book"), U.S.EPA, OAQPS, May 25, 1988.
- 2) "Guidance Document for Correcting VOC Rule Deficiencies," U.S.EPA Region IX and California Air Resources Board, April 1991.

Strengthening Areas

Rule 1146.1 will strengthen the SIP by creating a federally enforceable mechanism to control emissions from a source category previously unregulated by the SIP.

Recommendations

The issue described below should be addressed in the next rule revision.

Compliance testing: Units must be in compliance on a continual basis. The rule should require regular source testing in order to demonstrate compliance. The CARB RACT/BARCT guidance document suggests source testing on an annual basis. EPA also recommends the use of portable analyzers or other monitoring equipment to help ensure compliance with emission limits and operating parameters throughout the year. Records must also be kept of these monitoring and test results.

2. Net Effect on Emissions

Since there is no current SIP rule regulating these units, the incorporation of SCAQMD Rule 1146.1 into the SIP will create a federally enforceable mechanism to control emissions from this source category.

3. Proposed Action

EPA is proposing approval of Rule 1146.1 into the SIP.

Attachments:

1. SCAQMD Rule 1146.1, adopted May 13, 1994.
2. EPA comment letter for Rule 1146 and Rule 1146.1, dated February 9, 1994.