
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX AIR DIVISION**

Technical Support Document
for
EPA's Direct Final Rulemaking
for the
California State Implementation Plan

South Coast Air Quality Management District Rule 1146 and 1146.1
Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial
Boilers, Steam Generators, and Process Heaters
And
Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and
Commercial Boilers, Steam Generators, and Process Heaters

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- Agency:** South Coast Air Quality Management District
(SCAQMD)
- SIP Approved Rules:** Rule 1146 - Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters
Amended – November 17, 2000
Submitted – May 8, 2001
EPA Approved – April 8, 2002 (67 FR 16640)
- Rule 1146.1 - Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
Amended – May 13, 1994
Submitted – July 13, 1994
EPA Approved – September 6, 1995 (60 FR 46220)
- Superseded Submittals:** Rule 1146
Amended - September 5, 2008
Submitted – July 20, 2010
- Rule 1146.1
Amended – September 5, 2008
Submitted – July 20, 2010
- Subjects of this TSD:** Rule 1146
Amended – November 1, 2013
Submitted – May 13, 2014
- Rule 1146.1
Amended – November 1, 2013
Submitted – May 13, 2014

BACKGROUND – EPA previously proposed a limited approval and limited disapproval of both SCAQMD Rules 1146 and 1146.1 as submitted on July 20, 2010. The basis for our proposed limited disapproval was inconsistency with Clean Air Act (CAA) requirements for enforceability and the national credible evidence rule from 1997 (62 FR 8314). The proposed rulemaking was never finalized, therefore the current rule revisions in the SIP are those approved on April 8, 2002 and September 6, 1995. SCAQMD has since revised its rules to address the deficiencies identified in our proposed limited approval/disapproval and submitted them to EPA on May 13, 2014. This TSD addresses the rules as submitted on May 13, 2014.

RULE SUMMARY -

Rules 1146 and 1146.1 were amended to strengthen the NO_x emission limits, update compliance determination, and address EPA's enforceability deficiencies. A Compliance Schedule section was also added to Rule 1146 and updated in Rule 1146.1. Rules 1146 and 1146.1 do not apply to RECLAIM facilities. Changes from the approved SIP rules include:

For Rule 1146:

1. Added several definitions in Section (b) and made numerous other editorial changes to improve clarity.
2. Revised the requirements in Section (c) to add tables for Standard Compliance Limits and Schedule and Enhanced Compliance Limits and Schedule. Both tables introduce lower NO_x emission limits as well as compliance deadlines.
3. Added a formula in Section (c) to address how a weighted limit is calculated for dual fuel co-fired combustion units, added requirements for maintaining records on tune-ups, and added requirements for the owners and operators of Group II or III units to submit a compliance plan.
4. Revised the compliance determination Section (d) to limit source testing after tuning or servicing of units, clarify approved test methods, add testing frequency, and allow portable analyzers for diagnostic emissions checks. This section was also revised to address EPA's enforceability deficiencies.
5. Added a Section (e) Compliance Schedule to specify when operators and owners need to comply with specific rule provisions.

For Rule 1146.1:

1. Added several definitions in Section (b) and made numerous other editorial changes to improve clarity.
2. Revised the requirements in Section (c) to add an emissions limit table with lower NO_x emission limits and compliance dates.
3. Added a formula in Section (c) to address how a weighted limit is calculated for dual fuel co-fired combustion units. This section also added a CO limit for natural gas fired units and requirements for maintaining records of tune-ups.
4. Revised the compliance determination Section (d) to limit source testing after tuning or servicing of units, clarifying approved test methods, add

frequency of testing, and allow portably analyzers for diagnostic emissions. This section was also revised to address EPA's enforceability deficiencies.

5. Revised Section (e) Compliance Schedule to update the applicable compliance dates.

EVALUATION CRITERIA - The following criteria were used to evaluate the submitted rules.

1. Enforceability - The Bluebook (*Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations*, EPA, May 25, 1988) and the Little Bluebook (*Guidance Document for Correcting Common VOC & Other Rule Deficiencies*, EPA Region 9, August 21, 2001) were used to help evaluate compliance with the CAA §110(a)(2)(A) requirement for enforceability.
2. Stringency - EPA's Alternative Control Techniques Document (ACT) titled, "NOx Emissions from Industrial/Commercial/Institutional (ICI) Boilers" (EPA-453/R-94-022, March 1994), CARB's RACT/BARCT guidance titled, "Determination of Reasonably Available Control Technology and Best Available Retrofit Control Technology for Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters" (July 18, 1991), and other state and local rules for this category were used to help evaluate the RACT requirements of CAA §182(b)(2) and §182(f).
3. SIP Relaxation - CAA §110(l) prohibits EPA from approving any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress (RFP) or any other applicable requirement of the CAA. In addition, CAA §193 prohibits the modification of any SIP-approved control requirement in effect before November 15, 1990, in a nonattainment area.

EPA EVALUATION - A summary of our evaluation of the three criteria follows.

1. The rule requirements and applicability are clear, and the testing, recordkeeping, reporting and other provisions sufficiently ensure that affected sources and regulators can evaluate and determine compliance with Rules 1146 and 1146.1 consistently.
2. The submitted rules are more stringent than CARB's RACT/BARCT guidance and other California District rules for this category, including San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) Rules 4306 and 4307 and Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 411. The rule requirements are also comparable to those described in EPA's 1994 ACT. As a result, we have determined that this rule is as stringent as other California District rules for this category.

3. We propose to determine that our approval of the submittal would comply with CAA §110(l) and 193 because (1) the proposed SIP revision would not interfere with the on-going process for ensuring that requirements for RFP and attainment of the NAAQS are met, and (2) the emission limits in the submitted rule are more stringent than the existing SIP-approved control requirements that they would replace.

Additional discussion of specific issues follows.

1. RACT discussion - The submitted rules 1146 and 1146.1 are only applicable to sources that are not subject to RECLAIM, as is described in the applicability section of the rules and Table 1 in SCAQMD Rule 2001. RECLAIM covers all major NOx sources, therefore rules 1146 and 1146.1 are not required to fulfill RACT requirements. However, even if RACT were required, we believe these two SCAQMD rules would likely implement RACT for NOx emissions. The emission limits are comparable to emission limits in SJVUAPCD Rules 4306 and 4307 and SMAQMD Rule 411. Additionally, the submitted rules are as stringent as CARB's RACT/BARCT guidance and there is no CTG for this category.
2. RACM discussion - CAA §172(c)(1) requires implementation of all reasonable available control measures (RACM) for Ozone and PM2.5 as expeditiously as practicable in SCAQMD. As described above, we believe that the NOx emission limits in the submitted rules implement RACT for NOx. As a result, we believe that this demonstration is sufficient to determine that the rule requires all measures that are "reasonably available" within the meaning of RACM under CAA §172(c)(1). In separate rulemakings, EPA will take action on the State's RACM demonstration for PM2.5 and Ozone based on evaluation of the control measures submitted as a whole and their overall potential to advance the applicable attainment dates in the South Coast area.
3. Enforceability discussion - The previously submitted amendments of rules 1146 and 1146.1 were not finalized into the SIP due to rule deficiencies regarding enforceability and the national credible evidence rule from 1997. The rules precluded the use of both source test data and portable analyzers test results from being used to prove a violation of the emission standards in the compliance determination sections (d) in both rules. The rules now clarify that emission checks of NOx emissions, CO, and oxygen analyzers done by the operator or owner are used as a diagnostic tool for monitoring purposes, while diagnostic emission checks conducted by District staff will be used to determine rule violations. Additionally, the language stating that source tests shall not constitute a violation has been removed. We agree that the District has addressed the enforceability and credible evidence concerns in these new rule amendments.

RULE DEFICIENCIES - We have identified no deficiencies with Rules 1146 and 1146.1 sufficient for EPA to propose less than full approval.

ADDITIONAL RECOMMENDATIONS FOR THE NEXT RULE REVISION - The following revisions are not currently the basis for rule disapproval, but are recommended for the next time the rule is amended.

1. To improve clarity and enforceability of section (d)(2) in rules 1146 and 1146.1, consider defining the terms “as-found operating condition,” “unscheduled repair,” “start-up,” and “shutdown.” As they pertain to this rule. These definitions should be consistent with EPA Excess Emission Guidance (September 20, 1999), where appropriate. Please also consider adding recordkeeping requirements to this provision to demonstrate unscheduled repairs and operating hours.

EPA ACTION - The submitted Rules 1146 and 1146.1 strengthen the SIP by lowering NOx emission limits and clarifying rule provisions. The 2008 final staff report for Rule 1146 projected the rule would reduce NOx emissions by approximately 1.2 tons per day beginning in 2015 and the 2008 final staff report for Rule 1146.1 projected the rule would reduce NOx emissions by approximately 0.29 tons per day beginning in 2015. The rules fulfill the relevant CAA §110 and part D requirements. Therefore, EPA staff recommends a full approval of Rules 1146 and 1146.1 pursuant to CAA §110(k)(3) and §301(a).

REFERENCES -

1. SCAQMD Rule 1146, Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers Steam Generators and Process Heaters, as amended on November 1, 2013 and submitted to EPA on May 13, 2014.
2. SCAQMD Rule 1146.1, Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, as amended on November 1, 2013 and submitted to EPA on May 13, 2014.
3. SCAQMD Rule 1146, Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers Steam Generators and Process Heaters, as amended on September 5, 2008 and submitted to EPA on July 20, 2010.
4. SCAQMD Rule 1146.1, Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, as amended on September 5, 2008 and submitted to EPA on July 20, 2010.
5. SCAQMD Rule 1146, Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers Steam Generators and Process Heaters, as approved into the SIP on April 8, 2002.
6. SCAQMD Rule 1146.1, Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, as approved into the SIP on September 6, 1995.
7. "NOx Emissions from Industrial/Commercial/Institutional (ICI) Boilers," EPA-453/R-94-022, March 1994.
http://www.epa.gov/glo/SIPToolkit/ctg_act/199403_nox_epa453_r-94-022_ici_boilers.pdf
8. "Determination of Reasonably Available Control Technology and Best Available Retrofit Control Technology for Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters," CARB, July 18, 1991. <http://www.arb.ca.gov/ractbarc/boilers.pdf>.
9. "Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations," (a.k.a., Bluebook) EPA OAQPS, May 25, 1988 (web citation).
10. "Guidance Document for Correcting Common VOC & Other Rule Deficiencies," (a.k.a., Little Bluebook), EPA Region 9, August 21, 2001 (<http://www.epa.gov/region09/air/sips/littlebluebook2001.pdf>).