

United States Environmental Protection Agency, Region 9

Air Division

Technical Support Document

for

EPA's Notice of Proposed Rulemaking

for the

California State Implementation Plan

Antelope Valley Air Quality Management District's

Rule 1134, Stationary Gas Turbines

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Antelope Valley Air Quality Management District (AVAQMD)

Submitted Rule

AVAQMD Rule 1134, Stationary Gas Turbines

- Amended: January 19, 2010
- Submitted: July 20, 2010
- Determined complete: August 25, 2010

Previous Rule Submittals

There are no outstanding submittals of Rule 1134.

SIP-Approved Rule

- Adopted: December 7, 1995
- EPA approval: November 1, 1996 (61 FR 56470)

Rule Summary

Rule 1134 regulates emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) from stationary gas turbine systems with ratings equal to or greater than 0.3 MW.

The emission limits in the Rule are in Table 1 (Section C) and are shown below:

Control	Operating hours per year	Rating (MW)	NO _x limit (ppm @ 15% O ₂)		CO limit (ppm @ 15% O ₂)
			Gas fuel	Liquid fuel	
SCR + DLN	> 877	> 10	5	25	200
DLN	> 877	2 – 10	25	65	200
SCR (no DLN available)	> 877	2 – 10	35	65	200
DLN	> 877	< 2	42	50	250
SCR or DLN	< 877	> 10	25	42	200
Any (fired on digester and/or landfill gas)	any	0.3 – 10	25	N/A	200

The rule language includes definitions (Section B) and exemptions (Section D). Monitoring, recordkeeping and reporting requirements are contained in various provisions in Sections E, F, G, H and I.

Impact on Emissions

According to documentation sent along with the rule submittal, the District does not expect a reduction in emissions due to the implementation of this rule because there are no existing sources affected by the rule. The only turbine currently located in the District is a microturbine that is below the size threshold for Rule 1134 and is hence not subject to the rule.

Rule Evaluation Criteria

We have primarily used the following three criteria to evaluate Rule 1134:

Rule Stringency Section 172(c)(1) of the Clean Air Act (CAA) requires nonattainment areas to implement all reasonably available control measures (RACM), including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology (RACT), as expeditiously as practicable. Ozone nonattainment areas classified as moderate or above must require RACT for all major sources of NO_x. CAA § 182(b)(2) & (f); 40 CFR § 51.912(a). The AVAQMD regulates an ozone nonattainment area classified as moderate for the 8-hour NAAQS and severe-17 for the 1-hour NAAQS (see 40 CFR part 81), thus Rule 1143 must fulfill RACT requirements for NO_x.

Enforceability CAA section 110(a)(2)(A) requires that regulations submitted to EPA for approval into a State Implementation Plan (SIP) must be clear and legally enforceable.

SIP Revisions CAA section 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 section 193 prohibits the modification of any SIP-approved control requirement in effect before November 15, 1990, in a nonattainment area.

Guidance and policy documents that we used to define specific enforceability and RACT requirements include the following:

- *Issues Relating to VOC Regulation, Cutpoints, Deficiencies, and Deviations* (the “Blue Book”), US EPA, OAQPS (May 25, 1988).
- *Guidance Document for Correcting Common VOC and Other Rule Deficiencies*, EPA Region IX (August 21, 2001, the “Little Bluebook”).
- *State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990*, 57 FR 13498 (April 16, 1992); 57 FR 18070 (April 28, 1992).
- *State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990* (the “NO_x Supplement to the General Preamble”), US EPA, 57 FR 55620 (November 25, 1992).
- *Alternative Control Technology Document, NO_x Emissions from Stationary Gas Turbines*, US EPA, 453/R-93-007 (January 1993)
<http://www.epa.gov/ttn/catc1/dir1/gasturb.pdf>
- *Determination of Reasonably Available Control Technology and Best Available Retrofit Control Technology for the Control of Oxides of Nitrogen from Stationary Gas Turbines*, California Air Resources Board (May 18, 1992)
<http://www.arb.ca.gov/research/apr/reports/l3092.pdf>
- *Status Report on NO_x Controls for Gas Turbines, Cement Kilns, Boilers, and Internal Combustion Engines*; Northeast States for Coordinated Air Use Management (NESCAUM, December 2000) <http://www.nescaum.org/documents/nox-2000.pdf>

Evaluation of Rule Stringency

We believe Rule 1134 implements RACT for Antelope Valley for reasons including:

- The 1993 ACT provides technical information including control techniques and achievable controlled NOx emission levels from stationary gas turbines. Rule 1134 requirements are in alignment with levels of controls that the ACT shows are achievable.
- Rule 1134 requirements are more stringent than those determined to be RACT in the 1993 ARB RACT/BARCT determination.
- The limits in the rule are consistent with what the 2000 report by NESCAUM determined to be feasible for retrofit installations.
- The limits in the rule are comparable to limits in other Air Districts in California (e.g. San Joaquin Valley Unified APCD Rule 4703).

Since no CTG has been issued recently for this activity, we do not have clear national guidance defining presumptive RACT. However, we believe the analysis summarized above sufficiently demonstrates that Rule 1134 implements RACT.

Evaluation of Enforceability and SIP Revision Criteria

Recordkeeping and other compliance provisions in the rule ensure that the requirements are adequately enforceable.

The submitted rule has a wider applicability and more stringent emission limits than the currently SIP approved rule, thus strengthening the requirements of the SIP. Therefore, we propose to determine that a approval of the submittal would comply with CAA sections 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 submitted SIP revision is more stringent than the existing SIP requirements.

Suggested Rule Improvements

Although not currently basis for rule disapproval, EPA recommends that the AVAQMD make the following improvements in the next revision of Rule 1134.

1. The exemption for Chemical Processing Gas Turbine (Section (D)(1)(c)) should be eliminated or further explained. This is not currently a basis for rule disapproval as there are no major sources in the AVAQMD that are subject to this exemption.
2. To facilitate compliance determinations, we recommend amending the rule to require that all testing and other records be maintained for 5 years.

Recommendation

Based on the discussion above, Rule 1134 fulfills relevant Clean Air Act requirements for SIP approval and EPA staff recommends approval of AVAQMD submitted Rule 1134 for incorporation into the California Applicable SIP.

Other References

1. SIP approved Rule, amended December 7, 1995
2. Submitted Rule 1134
3. Staff Report, dated January 19, 2010