

El Dorado County
Air Quality Management District

STAFF REPORT

RULE
523-1

FEDERAL NON-ATTAINMENT
NEW SOURCE REVIEW

PROPOSED RULE

March 8, 2016

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STAFF REPORT
PROPOSED RULE 523-1,
FEDERAL NON-ATTAINMENT NEW SOURCE REVIEW

A. Executive Summary

Western El Dorado County (approximately Pollock Pines westward to the County line) is in nonattainment of the 2006 federal 24-hr PM_{2.5} (fine particulate matter ≤ 2.5 microns) National and State Ambient Air Quality Standards (AAQS). As such, the United States Environmental Protection Agency (EPA) requires the El Dorado County (EDC) Air Quality Management District (AQMD) to implement measures to control emissions of PM_{2.5} from major sources.

AQMD and the Sacramento region have committed to reducing pollution by submitting a State Implementation Plan (SIP). The SIP is federally enforceable. A New Source Review (NSR or Preconstruction Review Rule) is required as part of the SIP. In April 1994 AQMD adopted NSR Rule 523. However, Rule 523 does not apply to PM_{2.5}.

Rule 523 was adopted to ensure that construction and operation of new and modified stationary sources do not interfere with progress towards attainment of the AAQS applicable at that time. Adoption of Rule 523-1 will satisfy the current federal PM_{2.5} and ozone non-attainment area requirements. Rule 523 is more stringent than federal requirements for ozone precursors nitrogen oxides (NO_x), sulfur oxides (SO_x), and volatile organic compounds (VOC).

EPA has advised the AQMD that Rule 523 needs general updates. However, that update process will take significantly more time and resources than approval of proposed Rule 523-1. To meet federal deadlines, EPA has advised and the AQMD proposes adoption of Rule 523-1. Rule 523-1 was developed by EPA Region IX staff and has been reviewed by the California Air Resources Board (ARB). Adoption of Rule 523-1 will not add new requirements to any existing source in EDC. However, if any permit applications for major sources are received after rule adoption, they will be subject to the new rule.

Rule 523-1 will satisfy the federal requirement that Districts with nonattainment areas have an approved Federal PM_{2.5} NSR permitting program. Without the proposed Rule, the Sacramento region may be subject to Federal sanctions, including the potential loss of transportation funding.

B. Introduction

On March 8, 2016, the EDC AQMD Board of Directors (Board) will consider adoption of Rule 523-1, Federal Non-Attainment New Source Review. Rule 523-1 would regulate PM_{2.5} as a non-attainment pollutant for any new major stationary source which will emit or have the potential to emit 100 tons per year (tpy) of any regulated NSR pollutant or the PM_{2.5} precursors NO_x, SO_x or VOC. Rule 523-1 will also regulate any major modification of an existing PM_{2.5} major stationary source that directly emits 10 tpy PM_{2.5} or 40 tpy of NO_x, SO_x or VOC. Currently, there are no permitted major sources in EDC that emit or have the potential to emit at these levels. Rule 523-1

will be submitted to EPA for inclusion in the SIP.

Because the proposed revisions are an “action taken to protect the environment” by imposing more stringent requirements, the proposal falls under a categorical exemption pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15308. Staff have prepared a Notice of Exemption to satisfy the requirements of the CEQA.

C. Background

In October of 2006, the EPA promulgated a new 24-hour PM_{2.5} NAAQS (71 FR 61144), that strengthened the standard from 65µg/m³ to 35µg/m³. In December of 2009, the EPA Administrator established nonattainment designations for the 35µg/m³ standard, (74 FR 58688). A multi-county Sacramento region PM_{2.5} nonattainment area was designated. Western EDC was included in that nonattainment area.

The region’s PM_{2.5} monitoring data showed that the 2006 24-hour PM_{2.5} NAAQS was met by December 31, 2011. In May of 2012, ARB submitted a request that EPA find the Sacramento region in attainment for the standard. EPA issued a proposed rule for Determination of Attainment on October 26, 2012 and a final rule for Determination of Attainment on July 15, 2013¹. The final rule became effective on August 14, 2013. While the Determination of Attainment finding relieved the Sacramento region Districts from various planning requirements, it did not relieve the AQMD of the requirement to submit a PM_{2.5} NSR rule. The AQMD can only be relieved of the NSR program requirement if EPA re-designates the AQMD to attainment. Re-designation to attainment requires the Sacramento region submit a maintenance plan demonstrating attainment will be maintained over the next 10 years.

On December 3, 2013 the AQMD adopted and approved the submittal to ARB of a PM_{2.5} Implementation/Maintenance Plan and Redesignation Request for Sacramento PM_{2.5} Nonattainment Area. However, the Sacramento region exceeded the 35µg/m³ standard by 0.1µg/m³ on the last day of 2013 at one monitoring site in Sacramento. Therefore, the request for EPA to re-designate the regional area to attainment was delayed.

EPA is now allowing the use of data for the following year (2014) to be considered. The Sacramento region had a ‘clean’ year in 2014. Sacramento Metropolitan Air Quality Management District (SMAQMD), as the lead air district, began to prepare the new re-designation request in early 2015, but that has not yet been completed. Re-designation to attainment would relieve AQMD from the need to adopt 523-1 to include PM_{2.5} in the NSR program.

However, on October 8, 2015, the Center for Biological Diversity et al. filed a lawsuit against the EPA asserting EPA had failed to make findings of failure to submit (FFS) for nonattainment SIPs for the 2006 PM_{2.5} standard for multiple areas throughout the United States.² EPA is now in the process of negotiating a consent decree in which EPA will likely agree to issue a FFS by the beginning of April 2016. If the AQMD adopts and submits Rule 523-1 prior to EPA’s issuance of

¹ Federal Register, Volume 78, No. 135, July 15, 2013, p.42018

² *Center for Biological Diversity et al vs. Gina McCarthy, US EPA Administrator*, Case 4:15-cv-04663 filed 10/8/2015.

a FFS, then EPA will not include EDC in the FFS. The AQMD will avoid new submittal dates that must be met and EDC will not face the imposition of the loss of federal highway funds.

The current SIP-approved NSR Rule 523 is the original NSR Rule adopted by the AQMD on April 26, 1994. Adopting Rule 523-1 would add PM_{2.5} as a regulated NSR pollutant. It will include requirements for Lowest Achievable Emissions Rate (LAER), offsets, and major source and major modification thresholds for that pollutant. Adoption of Rule 523-1 will also ensure that the AQMD has a current NSR program for ozone precursors (VOC and NO_x) which satisfies all federal requirements for a severe ozone nonattainment area.

Rule 523-1 also contains a provision that the rule only applies to the pollutants for which EPA has designated the AQMD as not attaining a NAAQS. Therefore, when the AQMD is re-designated to attainment of the PM_{2.5} or ozone NAAQS, this rule will no longer apply to those pollutants.

Rule 523 already controls the PM_{2.5} precursors VOC (also referred to as ROC for reactive organic compounds) and NO_x at levels below those required by federal law. Therefore, the inclusion of VOC/ROC and NO_x controls in proposed Rule 523-1 will not result in any new requirements.

D. Proposed Revisions

Rule 523-1 will establish procedures for new and modified major stationary source review and provide mechanisms for granting source authorities to construct without interfering with NAAQS attainment or maintenance. The AQMD currently regulates 533 facilities with approximately 719 Permits to Operate. Adoption of Rule 523-1 will not impact the existing permits as they are not major sources (sources emitting 100 tpy or more). If any permit applications for new or modified major sources are received after rule adoption, they will be subject to the new requirements.

CAA Subpart 4: Ammonia & VOC as PM_{2.5} precursors

EPA required³ revisions to state and local NSR rules in response to the District of Columbia Circuit Court decision⁴ that PM_{2.5} precursors must be regulated under CAA Subpart 4. (CAA Section 189(e), 42 U.S.C. § 7513a(e)). Section 189(e) requires non-attainment areas to apply major NSR requirements to PM precursors, "*except where the Administrator determines that such sources do not contribute significantly to [PM] levels that exceed the standard in the area.*"

Rule 523-1 satisfies the section 189(e) requirements for regulation of NO_x, VOC and SO_x as precursors to PM_{2.5} by applying a 100 tpy threshold for new major sources and the 40 tpy threshold for modifications of major sources. The AQMD has determined that ammonia emissions are not significant contributors to PM_{2.5} levels in the area. First, EPA made a 'clean data finding' that the Sacramento federal nonattainment area attained the 2006 24-hour PM_{2.5} NAAQS prior to the attainment demonstration SIP deadline. Sacramento meets the 2006 and 2012 annual PM_{2.5} NAAQS, but is classified nonattainment for the 2006 24-hr PM_{2.5} NAAQS. Second, there are currently no major sources of ammonia emissions (100 tpy of potential ammonia emissions) within

³ 79 FR 31566, June 2, 2014

⁴ Natural Resources Defense Council v. EPA, 706 F.3d 428 (D.C. Cir, 2013)

EDC. The largest stationary source is the closed Union Mine landfill with estimated emissions at 3.3 tpy. All EDC sources of ammonia (stationary, area & mobile sources) emit a total of 288.4 tpy. All Sacramento federal nonattainment area sources emit a total of 10,037.5 tpy.⁵ The relative contribution of the Union Mine Landfill to the overall ammonia emissions is small; 1.1% of the County inventory and 0.03% of the nonattainment area inventory.

Given EDC AQMD and the other Sacramento area districts currently attain the PM_{2.5} standards without regulating ammonia emissions, that there are no stationary sources emitting ammonia near the 100 tpy threshold and the relatively small ammonia emissions from EDC stationary sources, the AQMD requests EPA concur with the determination that the likelihood of ammonia emissions from existing and any future major stationary sources significantly contributing to exceedance of the PM_{2.5} 24-hr NAAQS is extremely remote. Accordingly, Rule 523-1 is not required to treat ammonia as a PM_{2.5} precursor.

E. Impacts of New Rule (H&S Code § 40703)

In adopting any regulation, the AQMD must consider and make available to the public, its findings related to the cost effectiveness of a control measure, as well as the basis for the findings and the considerations involved.

Emission Impact (CEQA CCR Title 14, § 15180 to 15190)

Staff cannot quantify the potential emission reductions as this rule applies to future Authority to Construct permit applications. Any emission reductions will result from affected sources either taking lower permit limits or from surrendering more emission reduction credits.

Cost Impact (H&S Code § 40703)

California Health & Safety Code (H&S) Section 40703 requires the AQMD to consider and make public “the cost-effectiveness of a control measure”. Total costs of compliance include both the costs employing appropriate LAER emission control technology and providing sufficient emission offsets by purchasing by purchasing Emission Reduction Credits (ERCs). The federal NSR LAER requirements are determined on a case by case basis. EPA maintains a central database of air pollution control technologies to assist local air districts with determining appropriate LAER processes and equipment to employ for various major emission sources.

The addition of PM_{2.5} as a new federal NSR regulated pollutant will require that applicants provide offsets for PM_{2.5} for new sources emitting 100 tpy or more of PM_{2.5}, NO_x, SO_x or VOC. For existing major sources with a potential to emit 100 tpy of any of these pollutants, a modification resulting in an increase of the pollutant that the source is major for, of 10 tpy for PM_{2.5} or 40 tpy for the other pollutants, would also trigger offset requirements. Currently, applicants supply offsets of PM₁₀ at 7,500 pounds per quarter (15 tpy). Evaluating the cost increase is complicated in that PM_{2.5} is a major constituent of PM₁₀. For combustion sources, PM₁₀ is approximately 90% PM_{2.5}.

⁵ ARB CEPAM: California 2016 Ozone SIP Baseline Emission Projections - Version 1.00 Sacramento Nonattainment Area Tool

There are no PM2.5 Emissions Reduction Credits (ERCs) currently available in EDC. An applicant would have to supply a greater quantity of PM10 ERCs depending on the PM2.5 content of the PM10 ERC. For example, for PM10 ERCs from a combustions source, the applicant would supply 1.1 ton of PM10 ERC for every 1.0 ton of PM2.5 ERC required. The most recent price of PM10 ERCs in neighboring Placer County in 2011 was approximately \$9,800 per ton⁶. The cost for the applicant to supply a ton of PM2.5 ERC would be \$10,780 (1.1 x \$9,800). In EDC, there has been no need for PM10 ERCs over the past ten years.

The addition of PM2.5 as a NSR regulated pollutant could increase project compliance costs. However, there are no current nor are there any sources anticipated to emit 100tpy of PM2.5. Since the addition of PM2.5 is mandated by the federal Clean Air Act, cost-effectiveness is not an issue for this proposed Rule. Staff does not anticipate an additional need for staff resources due to inclusion of PM2.5.

Socioeconomic Impact (H&S Code § 40728.5)

H&SC Section 40728, in relevant part, requires the Board to consider the socioeconomic impact of any new rule if air quality or emission limits are significantly affected. However, air districts with a population of less than 500,000 are exempted from this requirement. In 2010, EDC population was approximately 181,000.

Incremental Effectiveness (H&S Code § 40920.6)

H&SC Section 40920.6 requires a determination of the incremental cost-effectiveness by calculating the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option. There are no other control options being proposed as alternatives to the inclusion of PM2.5 as a regulated pollutant and corresponding offset requirements.

F. Environmental Impacts of Method of Compliance (CA PRC § 21159)

California Public Resource Code Section 21159 requires the AQMD to perform an environmental analysis of the reasonably foreseeable methods of compliance. The analysis must include the following information for the proposed Rule 523-1:

1. An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.
2. An analysis of the reasonably foreseeable mitigation measures.
3. An analysis of the reasonably foreseeable alternative means of compliance with the rule or regulation.

However, Section 21159 also states, *“In the preparation of this analysis, the agency may utilize numerical ranges or averages where specific data is not available; however, the agency shall not be*

⁶ <http://www.arb.ca.gov/nsr/erco/erc14.pdf> and <http://www.arb.ca.gov/nsr/erco/erc11.pdf>

required to engage in speculation or conjecture.” Further, “This section does not require the agency to conduct a project-level analysis.”

Since there are no current permitted facilities in EDC to which the proposed Rule 523-1 would apply; and the AQMD is not aware of any affected facilities considering locating within the County, it is impossible for staff to reasonably foresee what methods of compliance a facility might use to be consistent with the proposed Rule.

G. Regulatory Findings (H&S Code § 40727)

H&S Code Section 40727(b) requires that prior to adopting or amending a rule, an Air District must make findings of necessity, authority, clarity, consistency, nonduplication, and reference.

Necessity

Districts with areas designated as Nonattainment for federal National Ambient Air Quality Standards (NAAQS) are required by the US EPA to establish Federal New Source Review (NSR) Rules for inclusion into the State Implementation Plan (SIP). Proposed Rule 523-1 would satisfy this requirement for PM2.5.

Authority

The AQMD is authorized to adopt rules and regulations by California Health & Safety Code, Sections 40000, 40001, 40701, 40702, 40716, 41010 and 41013.

Clarity

The AQMD has reviewed the proposed Rule and determined that it can be easily understood by the affected industry. Additionally, other districts have and are in the process of adopting this same model rule.

Consistency

The proposed Rule is not in conflict with or contradictory to any existing statutes, court decisions, or state or federal regulations.

Nonduplication

The proposed Rule does not conflict with any state laws or regulations, regarding attainment and maintenance of state and federal air quality limits.

Reference

All statutes, court decisions, and other provisions of law used by the AQMD in interpreting this regulation are incorporated into this analysis by reference.