SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

For Agenda of October 28, 2010

To: Board of Directors

Sacramento Metropolitan Air Quality Management District

From: Larry Greene

Executive Director/Air Pollution Control Officer

Subject: Continued Public Hearing to Adopt Resolutions Approving Amendments to:

- Rule 202, New Source Review; and

- Rule 215, Agricultural Permit Requirements and New Agricultural

Permit Review; and

Adopt Resolution Approving:

New Rule 214, Federal New Source Review

Recommendations

1. Conduct Public Hearing;

- 2. Determine that the amendments to Rule 202 and Rule 215, and the adoption of new Rule 214 are exempt from the California Environmental Quality Act (CEQA); and
- 3. Adopt the attached resolutions approving Rule 202, Rule 214 and Rule 215.

Executive Summary

The proposed amendments include changes to Best Available Control Technology (BACT) and offset requirements. As discussed below, the revisions are very important to avoid federal sanctions and prevent EPA implementation of a federal permit program within the District. As a practical matter, however, the impact of the rules is limited. Existing sources will not be affected unless they modify their operations and exceed new emission trigger levels for BACT and offsets. Many sources likely already meet BACT requirements resulting in no additional costs. For other source types, BACT includes only technologies that have been achieved in practice, and consequently represents the standard already being met by the business community. If sources must use alternative controls, the cost effectiveness for BACT is explicitly capped. And, while the District has issued 2000 permits in the last three years, only 3 of the sources that surrendered offsets would have been required to purchase additional offsets under the proposed rules. The actual offset impact on businesses depends on the increases in permitted levels and associated modifications and the location of offsets which cannot be accurately predicted. Some sources may avoid offset requirements because they install BACT or reduce their permitted emissions levels to below offset thresholds. The limited practical effect of the rule change is evidenced by the lack of public comments. Even though the rule was widely noticed and workshopped, the District received no comments from the regulated community.

Nonetheless, the amendments are critical to maintaining the District program. The amendments are mandated under a consent decree between the U.S. EPA and WildEarth Guardians¹. WildEarth sued EPA for failing to implement federal Clean Air Act (CAA) requirements in various areas, including Sacramento. Under the consent decree, EPA must adopt a Federal Implementation Plan (FIP) and assume direct permit authority in noncompliant areas or approve a State Implementation Plan (SIP) prepared by the local air district. If EPA adopts a FIP, it will also start a sanctions clock requiring the District to amend its rules and obtain EPA approval of the amendments within 24-months. Sanctions include imposing more stringent permit requirements and withholding federal transportation funds. The deadline for EPA action is May 11, 2011, but the District must submit the SIP revision well in advance of that date to insure timely approval and avoid the FIP and sanctions.

To meet the WildEarth consent decree, the District must submit a rule package that includes all federal requirements implemented since the adoption of its current SIP rule in 1984. That includes two categories of recent requirements:

- -- CAA requirements triggered by the District's request to extend its ozone attainment date from 2013 to 2018. Failure to timely adopt these requirements will trigger sanctions².
- -- CAA requirements triggered by EPA's PM2.5 nonattainment designation³.

In addition to the federally mandated rule amendments, the rule revision must meet the requirements of the Protect California Air Act of 2003 (SB 288)⁴. SB 288 was adopted to insure that any revisions required by federal law would not weaken the permitting requirements in effect prior to the amendment.

To meet federal mandates, the District is proposing a new Rule 214 that meets the federal-only mandates. Only Rule 214 will be submitted to EPA for approval into the SIP. By placing these requirements in a stand-alone rule, the District insures that strictly local and state requirements do not get incorporated into the SIP, which would render them enforceable in federal court in a citizen suit or EPA enforcement action. Rule 214 will apply only to federal major sources, including power plants and manufacturing facilities. The District currently has 14 major sources.

¹ WildEarth Guardians v. Jackson No. 4:09-CV-02453-CW (N.D. CA) "Proposed Consent Decree, Clean Air Act Citizen Suit," Federal Register Volume 74. December 7, 2009. p. 64076. WildEarth Guardians is a public interest group and Lisa Jackson is the Administrator of the U.S. Environmental Protection Agency.

² "Designations of Areas for Air Quality Planning Purposes: California; San Joaquin Valley, South Coast Air Basin, Coachella Valley, and Sacramento Metro 8-Hour Ozone Nonattainment Areas; Reclassification," Federal Register Volume 75. May 5, 2010 p. 24409

³ "Air Quality Designations for the 2006 24-Hour Fine Particle (PM2.5) National Ambient Air Quality Standards, Final Rule", Federal Register Volume 74. November 13, 2009 p. 58688

⁴ California Health and Safety Code Sections 42500 through 42507

To meet the state prohibition on weakening requirements, the District is also revising Rule 202. Rule 202 sets requirements for reviewing permit applications for new and modified sources, and established BACT and offset requirements and emission calculation procedures. Facilities subject to Rule 202 include chemical production plants, food processors, manufacturing plants, coating facilities, and facilities using large gas space or water heaters (these include schools, hospitals, and office buildings).

Rule 215 sets requirements for reviewing agricultural permit applications. Rule 215 cross-references Rule 214, which would apply to any major agricultural sources. Currently, all the agricultural sources in the District are below the major source trigger levels. For example, the largest turkey farm would have to almost double in size (from 450,000 birds to 800,000 birds) and the largest user of diesel--powered irrigation pumps would have to increase in size from 14 pumps to 60.

Effective Date

Generally, rules are effective immediately upon adoption unless the rule specifies delayed effective dates for provisions that require additional time for sources to comply. Staff believes implementation of the NSR rule should be delayed for two reasons. First, while we believe that the rules as proposed are consistent with federal requirements, in the past EPA has found that prior changes to the NSR rules have fallen short of the mark. The federal rules are complex and have changed over time making it difficult to be certain that any revision, including this one, will be approved by EPA without additional changes. We have used our best efforts to insure approval, including coordinating with ARB and EPA, but final approval is not guaranteed and additional revisions may be required. Delaying the effective date will give sources additional time (till as late as May 2011) to adjust plans that are under development in anticipation of the approval of these rules. Therefore, staff recommends that the resolution state that the rules become effective when EPA's final action approving these rules becomes effective.

Attachments

The following table identifies the attachments to this memo.

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Background

The District is currently designated as a nonattainment area under both state and federal ozone, PM10⁵ and PM2.5⁶ standards. Adverse health effects are linked to ozone and particulate matter. Ground level ozone is a secondary pollutant formed from photochemical reactions of NOx and volatile organic compounds (VOCs) in the presence of sunlight. Ozone is a strong irritant that adversely affects human health and damages crops and other environmental resources. As documented by the U.S. Environmental Protection Agency (EPA) in the most recent Criteria Document for ozone (U.S. EPA 2006), both short-term and long-term exposure to ozone can irritate and damage the human respiratory system, resulting in:

- decreased lung function;
- development and aggravation of asthma;
- increased risk of cardiovascular problems such as heart attacks and strokes;
- increased hospitalizations and emergency room visits; and
- premature deaths.

According to the U.S. EPA, health studies have linked exposure to particulate matter, especially fine particles, to several significant health problems, including:

- increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing;
- decreased lung function;
- aggravated asthma;
- development of chronic bronchitis;
- irregular heartbeat;
- nonfatal heart attacks; and
- premature death in people with heart or lung disease.

Exposure to PM pollution can cause coughing, wheezing, and decreased lung function even in otherwise healthy children and adults. EPA estimates that thousands of elderly people die prematurely each year from exposure to fine particles. In addition, a study (Dominici et. al, 2006) of the correlation between PM2.5 concentrations and hospital admission rates concluded that short-term exposure to PM2.5 increases the risk of hospitalization for cardiovascular and respiratory diseases.

Because both ozone and PM aggravate asthma, it is useful to know how prevalent asthma is in our community. The incidence of asthma in Sacramento County is higher than both California and the United States, In Sacramento County⁷, 13.6% of the adult population reported being diagnosed with asthma at some point in their lives. The California rate is 11.5%, and the national rate is 10.1%. In Sacramento County 11.3% of adult respondents experienced asthma symptoms at least once in the previous 12 months, which is higher than the State of California (8.6%). Of the respondents, 39.9% experienced monthly symptoms, and 25.9% experienced symptoms daily or weekly.

Particulate matter with an aerodynamic diameter of 10 microns or less, Code of Federal Regulations, Title 40, Section 50.6.

⁶ Particulate matter with an aerodynamic diameter of 2.5 microns or less, Code of Federal Regulations, Title 40, Section 50.7.

⁷ "Asthma Among Adults in Sacramento County, 2001" prepared by Disease Control and Epidemiology for County of Sacramento

Part of the strategy to control air pollution is to reduce emissions from new and modified stationary sources through a New Source Review (NSR) program. The federal Clean Air Act and its associated regulations contain NSR requirements for major stationary sources and major modifications. Major sources are sources that emit, or have the potential to emit, more than specified amounts of nonattainment pollutants or their precursors (e.g. 25 tons per year of ozone precursor emissions and 100 tons per year of PM2.5 or its precursors.)

The California Clean Air Act⁸ has similar permitting requirements, including a requirement to establish a no net increase program for sources that emit, or have the potential to emit, 10 tons per year or more. In addition, state law⁹ requires the Sacramento District to require the use of best available control technology for new or modified sources.

Continued from September Board Meeting

Staff recommended changes to the rule in response to comments received during the 30 day public notice period. Under Health and Safety Code Section 40726, if the District makes substantive changes to the publicly noticed proposed rule, then the Board must allow additional opportunity for review and delay action until the next Board meeting. Therefore, at the September meeting, the Board opened the public hearing, introduced the revised text, and then continued the item to the October Board meeting for further discussion. There was no public testimony at the September hearing.

Reasons for Rule Changes

The key purpose of the amendments is to retain local permitting authority and meet federal "severe" ozone and PM2.5 nonattainment area and state law requirements. The changes will also reduce future ozone precursor and PM2.5 emissions and help the District meet state and federal ozone and PM2.5 health standards. The requirements are similar to those already in place in the San Joaquin Valley and South Coast districts.

Rule changes are proposed to replace the 1984 version of the District's New Source Review rule, approved into the SIP in 1985¹⁰. The specific changes are:

- Add requirements for federal "severe" ozone nonattainment areas. The Clean Air Act¹¹ specifies increasingly stringent requirements for permitting new and modified sources in nonattainment areas that reflect the severity of their ozone problems.
- Add requirements for federal PM2.5 nonattainment areas. Sacramento was first designated as a PM2.5 nonattainment area in December 2009. The Clean Air Act¹² imposes permitting requirements to reduce the air quality impacts from new and modified businesses in all nonattainment areas.
- Enable the EPA to comply with the consent decree with WildEarth Guardians. The

⁸ California Health and Safety Code Section 40919

⁹ California Health and Safety Code Section 41010(b)

¹⁰ Federal Register Volume 50. June 19, 1985 p. 25417

Additional Provisions for Ozone Nonattainment Areas, Clean Air Act Section 182, 42USC7511a

¹² Discussed in EPA's PM2.5 NSR Implementation Rule. Federal Register Volume 73. May 16, 2008 p. 28321

consent decree sets a timeline of May 10, 2011 for EPA to approve a NSR rule that addresses both the 1997 National Ambient Air Quality Standards (NAAQS) for 8-hour ozone and PM2.5, promulgate a Federal Implementation Plan, or some combination of the two.

 Provide emission benefits to help meet the PM2.5 and ozone standards. Benefits are created by reducing emissions from new and modified emission units and offsetting emissions with emission reductions from within the Sacramento region.

In making these revisions, the District must comply with the Protect California Air Act of 2003 (SB288.) This state law prohibits amendments that would relax the requirements.

Staff has worked closely with our oversight agencies to satisfy both state and federal requirements and ensure approval of these permitting rule revisions. The proposed Rule 214, if approved by the Board and EPA, will enable us to retain local permitting authority.

Summary of Proposed Rule Amendments

The major proposed changes to the rules are summarized below. Note that many of the rule language additions and changes noted below are already required under other state and federal laws and regulations and our permitting rules, which require the District to implement all provisions of state and federal law when permitting sources¹³. The rule revision will clarify the requirements by bringing them together in a single permit program. Please refer to Attachment C for a more detailed description of additional changes and Appendix A of the Staff Report (in Attachment D) for details of the original proposed changes.

Rule 202:

- Limits offset exemptions as follows:
 - Emergency equipment exemption applies only if the equipment is not a major stationary source in and of itself or is not a major modification;
 - Temporary source exemption applies only if the emissions increase for the project does not exceed specified levels; and
 - Replacement equipment exemption applies only if (i) the replacement is an identical emissions unit(s) or (ii) is a functionally equivalent emissions unit. To qualify as functionally equivalent, the unit may not be a major source or major modification, must serve the identical function, and the emissions increase may not exceed specified levels.
- Adds exemption to clarify that Rule 202 does not apply to non-major agricultural stationary sources and agricultural non-major modifications. Consistent with current practice, these exempt sources are subject to the requirements of Rule 215 – Agricultural Permit Requirements and New Agricultural Permit Review.
- Requires Best Available Control Technology (BACT) for all new and modified equipment that increases emissions.
- Lowers offset trigger level for PM10 from 7,500 pounds per quarter to 7,300 pounds per quarter.
- Adds the following PM2.5 stationary source Clean Air Act NSR requirements:
 - Requires BACT for all PM2.5 emission increases.

¹³ California Health and Safety Code Sections 40001(a) and 42300(a), Rule 201 Section 303.1

- Sets PM2.5 offset trigger level at 15 tons per year.
- Establishes PM2.5 offset ratios that are consistent with PM10 ratios.
- Requires that permit holders obtain emission offsets for PM2.5 and PM2.5 precursors from within the Sacramento Federal Nonattainment Area for PM2.5.
- Increases offset ratios for emission reductions credits for distances greater than 15 miles from the source. The ratios for VOC, NOx and PM10 for distances greater than 15 miles are increased from 1.5:1.0 to 2.0:1.0.
- Adds exemption from alternative siting requirements that are included Rule 213, Federal Major Modifications.
- Requires major sources to use actual emissions instead of potential to emit in emission calculations for exemptions, BACT, major modifications, and emission offset purposes unless the emissions were fully offset within the 5-year period prior to the date their application is deemed complete or the actual emissions are within 80% of permitted potential to emit levels.

Rule 214:

New Rule 214 contains the New Source Review requirements that are required by federal laws and regulations. The rule is similar to Rule 202, with the important differences described below.

- Only applies to major stationary sources.
- Adds an exemption from PM10 requirements that takes effect upon redesignation of Sacramento County as attainment for the federal PM10 NAAQS.
- Removes carbon monoxide (CO) and lead (Pb) from the rule because Sacramento County has attained the relevant NAAQS. CO and Pb will be regulated by Rule 203 – Prevention of Significant Deterioration.
- Removes references to California laws and regulations. Rule 214 is a purely federal rule.
- Revises potential to emit calculation to exclude fugitive emissions unless a source belongs to one of the required source categories (as defined in Rule 207).

Rule 215:

Clarifies that Rule 214 and 202 apply to major agricultural sources. Rule 215 sets requirements for reviewing agricultural permit applications. Currently, all the agricultural sources in the District are below the major source trigger levels. For example, the largest turkey farm would have to almost double in size (from 450,000 birds to 800,000 birds) and the largest user of diesel--powered irrigation pumps would have to increase in size from 14 pumps to 60.

Cost Impacts

The primary changes that potentially impact businesses are increased offset obligations and additional BACT controls.

Offsets:

Increased offsets arise from the following two changes^{14,15} 1) sources that increase emissions by more than the offset trigger levels must provide more emission reduction credits if the offsets are obtained from sources located over 15 miles from the new or expanding source, and 2) more sources may be required to provide emissions reduction credits because the PM10 trigger level is lowered from 7,500 pounds per quarter to 7,300 pounds per quarter. Some sources may avoid offset requirements because they install BACT or reduce their permitted emissions levels to below offset thresholds (most sources operate well below permitted levels). For Sacramento County, the most recent offset costs for NOx, VOC, and PM10 vary from \$11,924 to \$75,000/ton on the open market and \$16,440 to \$33,685/ton from the District Community Bank. SOx and CO are pollutants that are not typically needed for offsets and the most recent offset costs vary for \$1 to \$11,924 on the open market and \$2,500 to \$5,000 from the District Community Bank.

During the past three years the District has issued approximately 2,000 permits and only 3 of the sources that surrendered offsets would have been required to purchase additional offsets under the proposed rule. Two sources (Teichert and Sacramento Metropolitan Utility District) provided emission offsets generated at a distance of more than 15 miles from the source. An approximate range of costs for the additional offsets required is \$15,934 to \$23,940. The high end of the range is an estimated cost, using the District Community Bank price of \$31,920/ton for NOx; however, both of these sources provided private emission offsets that are sold on the open market. The low end of the range is calculated using the costs paid by these two sources for the offsets on the open market.

BACT

The BACT requirement may increase the cost for new or modified equipment that would have been exempt from BACT under the current rule. The actual requirements for BACT are determined on a case-by-case basis considering factors such as technical feasibility and control levels achieved in practice by similar sources.

In some cases, source categories likely already meet BACT requirements resulting in no additional costs. These source categories currently include: coating operations, dry cleaners and gas stations. For other source categories, BACT is what has been achieved in practice and in some circumstances, where alternative controls may be required; the cost effectiveness for BACT is explicitly capped. The current cost caps range from \$11,400/ton to \$24,500/ton depending upon the pollutant. Staff has a BACT manual that identifies what equipment is generally considered BACT for common sources such as boilers and internal combustion engines. Staff is expanding the manual to include additional sources and equipment.

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Although the rules contain new offset and BACT requirements for PM2.5, PM2.5 is a subset of PM10 and the current rules have BACT and offset requirements for PM10. Because the proposed offset and BACT trigger levels are the same for both pollutants, PM2.5 sources are only impacted as described here. However, the offsets, when triggered, may need to be PM2.5 depending on the PM emission characteristics of the source.

¹⁵ If ammonia is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration approved by EPA in the State Implementation Plan, then emission offsets for ammonia will be required and the same offset ratios as for PM 2.5 will apply. The cost of ammonia offsets is unknown at this time.

The actual impact on businesses will depend on 1) the number of businesses that modify in the future, 2) the incremental costs of additional controls (if any), 3) the increases in permitted emissions levels associated with the modifications, and 4) the location of the offsets. Therefore, Staff cannot accurately predict the total costs.

Emission Impacts

Overall, the proposed BACT and offset revisions will achieve emission reductions of pollutants that exceed state and federal health standards. However, as discussed in the Cost Impacts section above, the actual impacts, and associated emissions reductions, depend on the four factors noted and, therefore, Staff cannot estimate the quantity of emission reduction benefits anticipated from the proposed rule amendments.

District Impacts

Staff estimates an additional 0.36 FTE of staff time is needed to implement the revised BACT requirement. The additional staff time is needed to update and maintain a BACT manual for routine sources and to evaluate BACT for non-routine sources.

No additional staff resources are needed to implement the changes to the offset requirements or any of the other proposed amendments.

Environmental Review and Compliance

California Public Resources Code (Section 21159) requires an environmental analysis of the reasonably foreseeable methods of compliance. Staff compared the requirements of the proposed rules to those of the existing rules. The proposed Rule 202 and Rule 214 set lower BACT and offset trigger levels, and increase offset ratios. Because of the proposed decrease in BACT trigger levels, more sources that are new or are undergoing modification will require BACT. In some cases, emission units at these sources may already meet BACT control requirements. In other cases, sources will comply by installing equipment with a higher level of emissions control. Sources may comply with the lower offset trigger levels and increased offset ratios by surrendering a greater amount of emission offsets. In some cases, sources may to choose to accept permit conditions that limit their potential to emit, or install lower-emitting equipment to reduce the amount of offsets required. The amendments would decrease air pollutant emissions and result in an air quality benefit. None of these methods of compliance would result in an adverse impact on the environment. Nevertheless, new and modified sources generally require local agency approvals (including District permits) which must comply with CEQA to identify any associated significant environmental impacts.

The only change to Rule 215 requires compliance with Rule 214 (in addition to the currently-required compliance with Rule 202) for major agricultural sources and therefore has no impact beyond the aforementioned changes to Rule 202 and Rule 214.

Staff finds that the proposed rules are exempt from the California Environmental Quality Act as an action by a regulatory agency for protection of the environment (Class 8 Categorical

Exemption, Section 15308 State CEQA Guidelines) and because it can be seen with certainty that there is no possibility that the activity in question may have a significant adverse effect on the environment (Section 15061(b)(3), State CEQA Guidelines).

Public Outreach and Comments

Staff conducted a public workshop on August 10, 2010. The noticing for this workshop included:

- Notices mailed to all permitted facilities in Sacramento,
- A display ad in the "Our Region" section of Sacramento Bee, and
- Notices mailed to those who have requested rulemaking notices.

Staff received oral comments and questions at the workshop as well as written comments. Comments and responses are listed in Appendix C of the Staff report (Attachment C). In addition, Staff conducted briefings with the Cleaner Air Partnership and a representative from the Sacramento County Farm Bureau.

Generally, there were very few comments and concerns expressed during the workshop process. The one significant comment requested higher PM2.5 offset ratios to account for decreased air quality benefit achieved when offsetting reductions are located some distance away from the new or increasing emissions source. The offset ratios were initially proposed as 1 to 1 (for every one pound increase there is a corresponding pound reduction elsewhere). In response to the comment, Staff has aligned the PM2.5 offset ratios with the PM10 emission offset ratio¹⁶. The proposed ratios are: same source 1.0:1.0, within 15 miles 1.2:1.0, 15 to 50 miles 2.0:1.0 and greater than 50 miles >2.0:1.0 and determined cases by case. Staff also corrected the workshop draft PM2.5 offset trigger level, increasing it from 10 tons per year to 15 tons per year (matching Placer County). Although the increase in trigger levels will subject fewer sources to offset requirements, for sources that trigger offsets there will be an increase in the amount of direct PM2.5 offsets surrendered depending on the distance to the source of the offsetting emission reductions.

Staff received written comments from EPA during the public notice period for the September 23rd hearing. EPA identified parts of the rule that did not meet federal laws and regulations. The most significant changes include the change to the definitions of terms that affect emission calculation procedures for major sources and major modifications.

A notice for the September 23, 2010 public hearing was published in the Sacramento Bee on August 23, 2010. The notice was also sent to attendees of the public workshop, all permitted sources, including major sources, and persons who have requested rulemaking notices via email or hardcopy. A notice was e-mailed to all members of the public who have requested notices for rulemaking activity and to the attendees of the public workshop regarding the new proposed changes and the continuance of the public hearing to the October 28, 2010 meeting.

¹⁶ If ammonia is determined to be a necessary part of the PM2.5 control strategy in the attainment demonstration approved by EPA in the State Implementation Plan, then emission offsets for ammonia will be required and the same offset ratios as for PM 2.5 will apply.

Conclusion

The proposed amendments are necessary to comply with the federal Clean Air Act and to retain District authority to issue permits for major sources. The amendments will allow EPA to approve Rule 214 for inclusion in the SIP and improve air quality. Staff recommends that the Board determine that the proposed rules are exempt from CEQA and approve the attached resolutions adopting Rule 214 and the amendments to Rule 202 and Rule 215 as proposed with an effective date of the day that EPA takes final action approving Rule 214.

Respectfully submitted,	Approved as to form:	
Larry Greene Executive Director/Air Pollution Control Officer	Kathrine Pittard District Counsel	

Attachments

Attachment A

Board Resolutions

Attachment B

Draft Rules 202, 214 and 215

Attachment C Addendum discussing changes to the September Draft Rules 202 and 214

Attachment D

September Board Package (excerpts)