



October 17, 2016

VIA ELECTRONIC MAIL

Ms. Tracy Jensen, Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, CA 95814

CC: The Honorable Members of the California Air Resources Board

RE: San Joaquin Valley Air Pollution Control District's 2016 Plan for the 2012 PM2.5 Standard

Dear Ms. Jensen and Board Members:

The California Air Resources Board (ARB) should not approve the San Joaquin Valley Air Pollution Control District's (District) 2016 Plan (Plan) for the 2012 PM2.5 Standard for its failure to include control and contingency measures as required by the Clean Air Act and for the lack of a robust public process during plan development. Instead, the Central Valley Air Quality Coalition (CVAQ), a coalition of more than 70 community, medical, public health, environmental and environmental justice organizations, and the undersigned, suggest ARB members give the District a 90-day period to conduct a public workshop and receive recommendations from the District's Public Advisory Workgroup, revise the Plan to include control and contingency measures, and go back before the Board for approval.

If ARB members choose to ignore this request and approve the 2016 Plan as is, the Environmental Protection Agency (EPA) will be obligated to reject the Plan and send it back for revision. This has become a distressing pattern, as EPA has now had to send back the 2015 Plan for the 1997 PM2.5 standard (EPA, August 2016), the 2008 Plan for the same standard (EPA, June

2011), the 2004 1-Hour Ozone Plan (EPA, June 2009), and the 2002 Ozone Plan (EPA, September 2002), all for failure to meet basic requirements of the Clean Air Act. If ARB rubber-stamps the deficient 2016 PM Plan and the EPA sends it back, up to two-and-a-half years could be added in administrative delay before an approvable plan is passed.

Delaying attainment of clean air standards has extreme consequences for public health. Exposure to PM_{2.5} over a few hours to weeks can trigger cardiovascular disease-related events, such as heart attack, stroke, arrhythmia, heart failure, increased blood pressure, and systemic inflammation (Brook et. al., 2010). Longer-term exposure increases the risk, creates or exacerbates chronic bronchitis and asthma, and reduces life expectancy by up to a few years (Brook). In a study conducted during the early 2000s when particulate matter pollution levels were slightly higher (but populations levels in the San Joaquin Valley were lower), it was estimated that 460 people over the age of 30 die prematurely every year due to air pollution. The same study shows that if federal health-based standards are met, the state could avoid 325 new cases of bronchitis, 260 hospital admissions, 23,300 asthma attacks, 3,230 cases of acute bronchitis in children, and 17,000 days of respiratory symptoms in children every year (Hall, 2006). Administrative delay continues to put lives at risk.

ARB and the District have time to correct the mistakes. ARB staff plan to present the Final State Implementation Plan (SIP) to ARB members on January 26th, 2017, more than three months from now. We suggest ARB give the District a 90-day period to correct the deficiencies outlined below, and better include the public in Plan development. The following is an account of the various Plan deficiencies and suggested measures the District could implement to improve the Plan.

I. Contingency Measures

The Clean Air Act requires states to submit and adopt contingency measures that will be triggered in the event an area fails to attain the national air quality standards. The 2016 Plan does not include any contingency measures and fails to meet equivalent contingency measure requirements, portending a future Plan rejection from the EPA.

ARB states that the 2016 Plan can meet contingency measure requirements for the year 2019 “based on emission reductions that go beyond those needed for RFP” (Reasonable Further Progress Demonstration) (ARB Staff Report, p. 15). However, EPA’s Implementation Rule does not allow “excess emissions” to be used to meet contingency measure requirements. The Rule states that “crediting an area for ‘excess’ emissions reductions to satisfy the contingency measure requirement is not allowable for Moderate areas that cannot practicably attain by the statutory attainment date” (EPA Fed. Reg. p. 58067). Furthermore, the RFP demonstration in the Plan is currently incomplete, as ARB is still modeling the reductions needed to attain the 2012 PM_{2.5} standard (ARB Staff Report, p. 17). Not only is the District and ARB not allowed to use “excess emissions” to meet contingency requirements, these surplus emissions from the RFP demonstration do not even exist (ARB Staff Report, Table 4). The EPA cannot legally accept this practice.

The assertion that this plan will be sent back by the EPA is not unfounded; the District has a history of propagating deficient contingency measures. This year the EPA sent back the 2015 Plan for the 1997 PM2.5 standard for failure to include approvable contingency measures (EPA, August 2016). In 2011, the EPA approved all elements of the 2008 PM2.5 Plan except for the contingency measures, which the EPA disapproved “because they did not provide sufficient emissions reductions” (EPA, June 2011). In 2009, the EPA disapproved the 2004 Ozone Plan because it did not meet the Clean Air Act’s requirement for contingency measures (EPA, June 2009). And in 2002, the EPA issued a finding of failure to submit contingency measures within the District’s ozone plan (EPA, September 2002). If the currently proposed 2016 Plan is approved by ARB and sent to the EPA, the Plan will be found deficient and sent back for revision.

ARB should send the Plan back to the District for a suggested 90-day period and mandate the District include proper contingency measures.

II. Control Measures

A. RACM/RACT Analysis Is Incomplete

ARB’s review of the Reasonably Available Control Measures (RACM) and the Reasonably Available Control Technologies (RACT) does little more than rubber-stamp the District’s unsupported assertions that the District, ARB, and the Metropolitan Planning Organizations (MPOs) have each exhausted all reasonable regulatory control measures available to them. Because there are a number of existing control measures that could reasonably be strengthened, and other reasonable new control measures that have yet to be adopted and implemented, ARB should reject the District’s RACM/RACT demonstration. Examples of reasonably available controls include:

(1) *Standards for Agricultural Equipment.* In the 2007 San Joaquin Valley ozone plan, ARB committed to creating and implementing an agricultural equipment rule for the state by 2013 (San Joaquin, 2007 Ozone). Though ARB conducted workshops and explored the possibility of drafting a rule, it encountered resistance from the regulated community and chose to create a rule that allowed the District to receive credit for emissions reductions from voluntary incentive programs. The District’s incentive program itself has demonstrated the feasibility of emission controls on off-road agricultural equipment, as it has led to the replacement of more than 1,000 pieces of off-road equipment and agricultural equipment. ARB plans to follow up on that rule with a regulation, but the Plan does not say when it will be implemented or what its effect on NOx emissions will be. ARB has the ability to create binding, enforceable regulations to reduce NOx emissions from off-road agricultural equipment and hasten attainment of the 2012 PM2.5 National Ambient Air Quality Standards (NAAQS) in the San Joaquin Valley.

(2) *Fleet Rules.* Though the District does not regulate mobile sources, it does have the power to establish fleet rules for publicly owned vehicles. They currently has a fleet rule for only one type

of vehicle: school buses. The South Coast Air Quality Management District has fleet rules for: buses; light-, medium- and heavy-duty public fleet vehicles; waste collection vehicles; airport ground transportation such as taxis and shuttles; and street sweepers. While ARB's new Truck and Bus Rule will elevate state law to the stringency of many of South Coast's rules, the District has the authority to adopt next-generation standards for fleets with zero-emission requirements on *all* publicly-owned vehicles in the San Joaquin Valley.

(3) *Indirect Source Review Improvements.* The Indirect Source Review (ISR) rule which was last updated in 2005 plays an important role in minimizing pollution from urban development. We believe there are opportunities to obtain additional emission reductions by updating the rule. At present, the District's Rule 9510 currently requires that all emissions above certain thresholds be mitigated via the payment of fees to the District. Instead, the District could eliminate this option for businesses to pay their way out of polluting and instead require them to meet the mandated emissions level. The District could also expand the applicability of the rule to include agricultural operations, such as traffic emissions between operations (i.e. milk processor, dairy, feedlot). In addition, the District should increase the emissions reductions required for projects.

(4) *Fireplace Rule Improvements.* The District should revise its fireplace rule to eliminate wood burning when the San Joaquin Valley is expected to exceed the 2012 PM2.5 NAAQS. Furthermore, the District should follow the lead of the Bay Area Air Quality Management District and ban fireplaces in all new developments (Bay Area, Summary of Regulation 6).

(5) *Update Charbroiling Regulations.* The District has delayed updating its charbroiling rule, though there were regulations that could have been implemented years ago to reduce emissions. In 2012, the District opted to wait until 2016 to update the charbroiling rule to include regulations for under-fired charbroilers – allegedly because the District expected technological advances that would allow for stricter controls (San Joaquin, 2012 PM2.5 Plan, p. D-116.) However, the Bay Area Air Quality Management District has already implemented regulations on under-fired charbroilers. (San Joaquin, 2012 PM2.5 Plan, p. D-113 to D-114). In 2012, CVAQ coalition members asked the District to update the rule sooner, to include controls similar to those in the Bay Area and to follow up with another rule update when new technologies are reasonably available. (San Joaquin, 2012 PM2.5 Plan, p. D-116.). Because under-fired charbroilers emit direct PM2.5, they represent an important opportunity to reduce emissions.

(6) *Performance Standards for Flares.* The District's flare rule could also be strengthened. Under the current rule, a company can flare natural gas twenty-four hours per day for days on end without a violation. (San Joaquin, Rule 4311 p. 23-24). The District has assessed its rule in comparison with other rules in California, but the District should also assess its rule against rules in other areas with high amounts of oil and gas production. For example, North Dakota Industrial Commission has a flare rule with performance-based requirements. By October 1, 2014, it expected operators to capture 74% of all natural gas, and by October 1, 2020 it expects that percentage to increase to 90%. (North Dakota, 2014). If operators do not meet the targets, the Commission can reduce flared gas by restricting oil production. The District could borrow from

this approach by assessing the percentage of natural gas flared in the San Joaquin Valley and working to reduce that percentage through regulations. A performance-based standard would be an effective way to reduce emissions from flares and to inspire more effective and health-protective procedures for dealing with excess natural gas.

(7) *Limit Biomass and Open Burning.* Biomass burning is a significant source of direct PM_{2.5}, yet in 2016 the Air District allowed close to 2,000 acres of biomass to be openly burned in the Central Valley. The District plans to approve 12 more orders of abatement for open burning at the next Hearing Board Meeting this Wednesday, the 19th of October (San Joaquin, Central Region). Open burning of agricultural waste should be completely banned and incentives for mulching waste like those provided by the U.S. Department of Agriculture should be provided.

(8) *Update Conservation Management Practices (CMPs)* CMPs are activities farmers can implement to reduce dust emissions from on-farm sources, which account for almost 10% of total particulate matter emissions. While farming techniques and technologies have greatly evolved over the last ten years, the list of available CMPs has not been updated since 2004. For instance, newer harvesting technologies have been proven to produce significant reductions in PM_{2.5} emissions (Faulkner, 2013). CMPs should be updated to reflect current practices and new technologies. Farmers should also be required to demonstrate actual on-farm emission reductions, which they currently do not have to do.

B. RACM for Condensables

The District's proposal also fails to address the fact that the RACM/RACT analysis does not include reasonable controls for condensable emissions. Nowhere in the demonstrations submitted by the District is there any discussion on the controls of condensable PM_{2.5} emissions. The transition period allowing agencies to ignore controls on condensable emissions ended on January 1, 2011. EPA has stated that, "We expect States to address the control of direct PM_{2.5} emissions, including condensables with any new actions taken after January 1, 2011" (EPA Fed. Reg. p. 20652). EPA must disapprove the RACM/RACT demonstration for failing to assess reasonably available controls on condensable emissions.

Again, the District has a history of ignoring reasonable control measures to curb pollution. In September of 2016 the EPA partially disapproved the 2015 Plan for the 1997 PM_{2.5} standard for failure to include the most stringent measures that can be feasibly implemented (EPA, January 2016). The EPA also denied ARB and the District's request to extend the Valley's attainment deadline for the 1997 PM_{2.5} standard for the same reasons. (EPA, September 2016). And in 2012, the EPA found that California failed to submit a required SIP revision that identifies and adopts proper control strategies as they relate to transportation. As exemplified in the list above, there are numerous ways the District and ARB can strengthen and update existing rules and create new rules on unregulated sources of pollution.

ARB should send the Plan back to the District for a suggested 90-day period and mandate the District adopt more stringent controls.

III. Public Process

The District claims they provided a robust public process by providing updates at regular District committee meetings and a Governing Board hearing. These were simply updates, not sufficient opportunities for the public to learn in detail, engage in meaningful discussion or provide recommendations on specific components of the plan. CVAQ recommends the District engage in a more thoughtful and targeted outreach approach. Specifically, we suggest the District (A) consult with the Public Advisory Workgroup on the 2016 Plan and receive recommendations and (B) host a public workshop on PM_{2.5} precursor modeling, as required by the EPA.

A. Public Advisory Workgroup

CVAQ was pleased to see the District's commitment to implement a Public Advisory Workgroup to develop the 2008 ozone plan, which in addition to several public workshops, gathered diverse perspectives from the Environmental Justice, Agriculture and Industry community, along with air regulating agencies to develop the plan in detail. Despite anticipation from advocates, the Public Advisory Workgroup was not utilized in developing the 2016 PM_{2.5} plan, nor were there any public workshops. Rather, the District procrastinated on the development of this plan and thus rushed the planning process. We suggest ARB mandate the District consult with the Public Advisory Workgroup on the 2016 PM_{2.5} and receive and consider the Workgroup's recommendations.

B. PM_{2.5} Precursor Demonstration

CVAQ would also like to see the District include and engage the public on PM_{2.5} precursor demonstrations, as required by the Clean Air Act. Precursor demonstrations are equations that show whether a precursor to PM_{2.5} is a significant part of the air pollution problem and thus something that should be regulated. The EPA Implementation Rule declares that a state may exclude controls of certain PM_{2.5} precursors if the state can either show (1) that the concentration of a particular precursor has an insignificant contribution to PM_{2.5} levels in an area OR (2) a decrease in a precursor's concentration levels will have an insignificant effect on ambient PM_{2.5} concentrations. The District and ARB chose the latter approach in regards to the various PM_{2.5} precursors and decided that a precursor would be deemed significant if a 30% decrease in concentrations creates more than a 0.2µg/m³ decrease in PM_{2.5}. We believe the equation used to conduct the sensitivity analyses is arbitrary and, more importantly, the development of the modeling demonstration was not publicly reviewed, thus invalidating the modeling and the consequent assumptions about PM_{2.5} precursors.

Foremost, the modeling should be invalidated because there was no public review. EPA declares that a district "should develop a precursor demonstration early in the attainment plan

development process" and conduct a "public review of any proposed precursor demonstration" (EPA Fed. Reg. p.58024). For the 2016 Plan, no public review of any precursor demonstration was conducted.

Regarding ammonia specifically, we believe the modeling assumptions are arbitrary. ARB and the District show that a 30% decrease in ammonia levels would have an insignificant effect on particulate matter pollution and consequently argue that they do not need to regulate the precursor. They chose a hypothetical 30% decrease because they deemed it "appropriate" and "reflects an assessment of the reasonable potential for further emission reductions" (ARB Staff Report, p. 11). However, each precursor – ammonia, NOX, SOX, and ROG – is unique and cannot be given the same treatment. NOX, which has already been heavily regulated, will be more difficult to reduce in the future and thus a 30% decrease may be reasonable. Ammonia, however, has been historically under-regulated and represents the cheapest opportunity for emission reductions. A report entitled *How Clean Air is Possible and Affordable by 2013* prepared by the International Sustainable Systems Research Center states that "based on the available information, it is estimated that approximately 70-80% of ammonia emissions could be reduced using already existing technologies and practices" (p. 31). If ammonia emissions were reduced by 80%, would it significantly reduce PM2.5 concentrations? Because the precursor demonstration development was not made public, we cannot know. We can assume though that at a certain point when ammonia emissions are reduced dramatically, further reductions of ammonia emissions would become highly effective at reducing PM.

We ask ARB reject the 2016 Plan and mandate the District consult with and receive recommendations from the Public Advisory Workgroup and host a public workshop on PM2.5 precursor modeling.

The District's 2016 Plan does not comply with the minimum requirements of the Clean Air Act. Meaningful planning is necessary if the Valley is ever going to make progress toward attaining the PM2.5 standard, and ARB is responsible for ensuring that such meaningful planning has occurred.

Sincerely,

Dolores Weller
Central Valley Air Quality Coalition

Kevin Hamilton
Sarah Sharpe
Central California Asthma Collaborative

Genevieve Gale
Young Frenans for the Environment

Bill Magavern
Coalition for Clean Air

Nayamin Martinez
Central California Environmental Justice Network

Janet Dietz
Fresno Citizen

Works Cited

- ARB Review of the San Joaquin Valley 2016 Moderate Area Plan for the 2012 PM2.5 Standard*. Rep. California Air Resources Board, 16 Sept. 2016. Web.
<<https://www.arb.ca.gov/planning/sip/sjvpm25/2016pm25/2016pm25staffreport.pdf>>.
- Bay Area Air Quality Management District. *Summary of Regulation 6, Rule 3 Amendments*. N.p., n.d. Web.
<<http://www.baaqmd.gov/~media/files/compliance-and-enforcement/wood-burning/2015-amendments/summary-of-rule-amendments-november-9-2015-final-pdf.pdf?la=en>>.
- Brook, Robert. "American Lung Association Scientific Statement: Particulate Matter Air Pollution and Cardiovascular Disease." *Circulation* 121.1 (2010): n. pag. *AHA Scientific Statement*. Web.
<<http://circ.ahajournals.org/content/121/21/2331>>.
- Faulkner, William B. "Harvesting Equipment to Reduce Particulate Matter Emissions from Almond Harvest." *Journal of the Air & Waste Management Association* 63.1 (2013): 70-79. Web.
<<http://www.tandfonline.com/doi/pdf/10.1080/10962247.2012.738625>>.
- Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements, 81 58010 § 164-50,51 and 93 (Environmental Protection Agency 2016). Print.
- Hall, Jane. "The Benefits of Meeting Federal Clean Air Standards in the South Coast and San Joaquin Valley Air Basin." (2008): n. pag. Web. <<http://www.scientificintegrityinstitute.org/Hall032906.pdf>>.
- International Sustainable Systems Research Center. "Clearing the Air: HOW CLEAN AIR IS POSSIBLE AND AFFORDABLE BY 2013: An Alternative State Implementation Plan for the San Joaquin Valley." (2007): n. pag. Web. <http://www.kirschfoundation.org/care/documents/Clearing%20the%20Air_Full%20Report.pdf>.
- North Dakota Industrial Commission. *Order No. 24665*. N.p., 2014. Web.
<<https://www.dmr.nd.gov/oilgas/or24665.pdf>>.
- San Joaquin Valley Air Pollution Control District. *2007 Ozone Plan*. N.p., Apr. 2007. Web.
<http://www.valleyair.org/air_quality_plans/docs/AQ_Ozone_2007_Adopted/2007_8HourOzone_CompletePlan.pdf>.

San Joaquin Valley Air Pollution Control District. *2015 Plan for the 1997 PM2.5 Standard*. N.p., 16 Apr. 2016. Web. <http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2015/2015-PM2.5-Plan_Bookmarked.pdf>.

San Joaquin Valley Air Pollution Control District. *2012 Plan for the 1997 PM2.5 Standard*. N.p., 20 Dec. 2012. Web. <http://www.valleyair.org/Air_Quality_Plans/PM25Plan2012/CompletedPlanbookmarked.pdf>.

San Joaquin Valley Air Pollution Control District. *CENTRAL REGION HEARING BOARD MEETING*. N.p., 19 Oct. 2016. Web. <http://www.valleyair.org/Board_meetings/HB/agenda_minutes/Central/Agenda/2016/HB-CR-Agenda-2016-Oct-19.pdf>.

San Joaquin Valley Air Pollution Control District. *Rule 4311 (Flares) Further Study*. N.p., 2014. Web. <http://www.valleyair.org/air_quality_plans/docs/R4311.pdf>.

San Joaquin Valley Air Pollution Control District. *2015 Plan for the 1997 PM2.5 Standard*. N.p., n.d. Web. <http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2015/2015-PM2.5-Plan_Bookmarked.pdf>.

U.S. Environmental Protection Agency. *August 2016: Final Approval of 2012 San Joaquin Valley Plan and 2014 Supplement for the 2006 PM2.5 Standard*. N.p.: n.p., 2016. Web. <<https://www.regulations.gov/document?D=EPA-R09-OAR-2014-0636-0173>>.

U.S. Environmental Protection Agency. *Federal Register*. 164th ed. Vol. 81. N.p.: n.p., 2016. Print. II.

U.S. Environmental Protection Agency. *January 2016: Proposed Rule on the San Joaquin Valley 2015 PM2.5 Plan*. N.p., Jan. 2016. Web. <<https://www.regulations.gov/document?D=EPA-R09-OAR-2015-0432-0001>>.

U.S. Environmental Protection Agency. *June 2009: Proposed Approval and Partial Disapproval of San Joaquin Valley's 2004 Extreme Area Plan to Attain the 1-hour Ozone Standard*. N.p., June 2009. Web. <<https://www.regulations.gov/document?D=EPA-R09-OAR-2010-0516-0120>>.

U.S. Environmental Protection Agency. *June 2011: Proposed Partial Approval/Partial Disapproval of San Joaquin Valley 2008 PM2.5 Plan*. N.p., n.d. Web. <<https://www.regulations.gov/document?D=EPA-R09-OAR-2010-0516-0120>>.

U.S. Environmental Protection Agency. *September 2002: Finding of Failure to Submit "Severe Area" Ozone Requirements*. N.p., Sept. 2002. Web.

<https://www.federalregister.gov/documents/2002/10/02/02-24912/finding-of-failure-to-submit-state-implementation-plan-revisions-for-ozone-1-hour-standard>>.

U.S. Environmental Protection Agency. *September 2016: Final Rule to Deny Requested Extension of Attainment Date for 1997 PM2.5 NAAQS*. N.p., Sept. 2016. Web.

<https://www3.epa.gov/region09/air/actions/pdf/ca/sjv/epa-r09-oar-2015-0432-sjv-pm2.5-final-rule-denial-extension-2016-09-23.pdf>>.