



April 27th, 2020

VIA ELECTRONIC SUBMITTAL

Re: EPA's Proposed Approval of the 2006 Fine Particulate Matter Nonattainment Area Requirements for California's San Joaquin Valley (Docket # EPA-R09-OAR-2019-0318).

On behalf of National Parks Conservation Association (NPCA), Earthjustice, Central Valley Air Quality Coalition (CVAQ), Coalition for Clean Air (CCA), Central California Environmental Justice Network (CCEJN), The Climate Center, and Central California Asthma Collaborative (CCAC), we thank you for this opportunity to comment on the U.S. Environmental Protection Agency's (EPA) proposed approval of the 2006 fine particulate matter nonattainment area requirements for California's San Joaquin Valley (Valley). The Valley's 2006 35 µg/m³ 24-hour fine particulate matter (PM_{2.5}) State Implementation Plan (SIP) does not meet the requirements of the Clean Air Act. The California Air Resources Board (CARB) and San Joaquin Valley Air Pollution Control District (SJVAPCD or District) must remedy the significant deficiencies identified in the comments below. If these deficiencies cannot be remedied, EPA must deny the 5-year extension and submit a finding that the San Joaquin Valley has failed to attain the 2006 PM_{2.5} standard for Serious areas.

I. The Current Valley PM_{2.5} Plans Cannot be Approved Because They are Built on Modeling that Assumes Emission Reductions from Measures EPA has Invalidated.

EPA's proposal is arbitrary and capricious because EPA knew, even at the time it issued this proposal, that EPA itself had undermined the plans and all their reasonable further progress (RFP) and attainment modeling. These plans are all premised on the continued implementation of California's Advanced Clean Cars program, including California's greenhouse gas vehicle standards and zero-emissions vehicle mandate. On September 27, 2019, EPA withdrew the waiver EPA had previously granted to these requirements, finding these standards void *ab initio*.¹ EPA notes that "future year emissions projections in the SJV PM_{2.5} Plan assume implementation of CARB's Zero Emissions Vehicle (ZEV) sales mandate and greenhouse gas (GHG) standards" and that EPA had withdrawn California's waiver for these standards,² but then inexplicably suggests EPA will assess

¹ 84 Fed. Reg. 51310, 51338 (Sept. 27, 2019).

² 85 Fed. Reg. at 17390 n. 80.

changes to the motor vehicle programs if and when EPA finalizes its rollback of the federal GHG standards, which EPA did on March 30, 2020.

While commenters believe the withdrawal of California's waiver is unlawful, it nonetheless infects the entire plan because the affected vehicle standards are built into the EMFAC2014 model used to predict future mobile source emissions. Those projections are used to demonstrate reasonable further progress and attainment, and to calculate the motor vehicle emission budgets used for transportation conformity.³ With EPA's decision, EPA can no longer claim that these emission limitations are enforceable or that California continues to have a program to provide for their enforcement.⁴

As CARB explained to EPA, "If California's programs to achieve reductions from the light-duty sector are invalidated, the inventories based on EMFAC 2014 would no longer be valid, and EPA would disapprove SIPs and associated motor vehicle emission budgets (MVEB) used to demonstrate transportation conformity, as the budgets derived from EMFAC2014 would include the effects of regulations no longer valid."⁵

The decision to "void" California's standards will increase PM-related pollution in three direct ways: increased tailpipe emissions, increased upstream emissions from refineries, and increased emissions from fuel distribution systems.⁶ EPA accounts for none of these changes.

EPA's refusal to address this issue in the proposed approval appears to be an attempt to undermine meaningful public participation. In its 2019 withdrawal of the California waiver, "EPA acknowledges that its action in this document may have implications for certain prior and potential future EPA reviews of and actions on state SIPs that may incorporate certain aspects of California's state program, either California's own SIPs, or SIPs from states that have adopted one or more aspects of California state program EPA will consider whether and how to address those implications, to the extent they exist, in separate actions."⁷

Despite this acknowledgement, EPA's proposal here includes no discussion of the withdrawal, and implies in a footnote that it is of no consequence, unless and until the federal rollback is finalized. Both EPA itself and CARB have acknowledged the potential problems in plans that rely on California's now "voided" mobile source regulations, yet EPA's proposal ignores these concerns. To the extent EPA believes the plan built on the EMFAC2014 modeling remains valid and approvable, EPA has provided no explanation allowing for a public response. The new federal standards are also not included in EMAC2014. No matter where the federal standards landed, EPA knew the modeling underlying this SIP was flawed. Regardless, EPA's excuse for delaying that assessment—the final rollback of the federal standards—is now also no longer legitimate. EPA cannot simply finalize its action based on conclusions that have never been subject to public review and comment. EPA must

³ See, e.g., 85 Fed. Reg. at 17389-80, 17426-28.

⁴ 42 U.S.C. § 7410(a)(2)(A) and (C).

⁵ CARB, "Analysis in Support of Comments of the California Air Resources Board on the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks" at 289 (Oct. 26, 2018) (available at: <https://ww2.arb.ca.gov/sites/default/files/2018-10/2018-10-26%20FINAL%20CARB%20Detailed%20Comments%20on%20SAFE%20NPRM.pdf>).

⁶ See *id.* at 287-88 (explaining in part, "[m]ore gasoline consumption means more diesel tanker trucks trips to community gasoline stations, and therefore higher diesel PM emissions and refueling evaporative losses").

⁷ 84 Fed. Reg. at 51338 n. 256.

disapprove this submittal and direct the State and District to revise the plans to account for EPA's actions.

II. EPA's Approval of the Plan's Aggregate Commitments is Arbitrary and Capricious.

The SJV PM2.5 plans rely on a CARB commitment to achieve aggregate emission reductions of 32 tons per day (tpd) of NOx and 0.9 tpd of PM2.5 emissions by 2024, and a District commitment to achieve aggregate reductions of 1.88 tpd of NOx and 1.3 tpd of PM2.5 by "2024/2025."⁸ The vast majority of these commitments are to be achieved through incentive programs to accelerate the turnover of mobile sources.⁹ Despite this fact, most of EPA's discussion for finding these commitments reasonable focuses on the rulemaking commitments that provide relatively little toward meeting these aggregate tons of emission reductions. The bulk of these commitments rely on unfunded incentive measures that EPA proposes to approve with no record to support their likelihood of success.

A. The Aggregate Emission Reduction Commitments Are Not Enforceable.

Clean Air Act section 110(a)(2)(A) requires SIPs to include "enforceable" emission limitations and other control measures.¹⁰ To be "enforceable" a measure must be enforceable by the State, EPA and citizens. As EPA has explained: "A core principle of the CAA is that by taking action to approve an emission limitation into a SIP, the EPA thereby makes those emission limitations a federally enforceable component of the SIP that the State, the EPA, or citizens can thereafter enforce in the event of alleged violations."¹¹

Mere approval into the SIP, however, does not convert an unenforceable provision into an enforceable one. EPA's SIP approval must explain how the proposed measure can be enforced. "SIP provisions that operate to preclude enforcement by the EPA or citizens for violations, whether through impermissible exemptions or other SIP provisions that function to bar effective enforcement, not only undermine the enforcement structure of the Clean Air Act (CAA) in a technical sense but undermine effective enforcement."¹²

EPA's proposed approval of the aggregate emission reduction commitment is not supported by any analysis of how this commitment is enforceable. EPA must answer the following:

- (i) *What is the violation?*

Citizens and EPA can only enforce "violations." Citizens can commence civil actions for "a violation of . . . an emission standard or limitation under this chapter or . . . an order issued by the Administrator or a State with respect to such a standard or limitation."¹³ EPA can enforce a "violation of any requirement or prohibition of an applicable implementation plan . . ."¹⁴

⁸ 85 Fed. Reg. at 17413.

⁹ See *id.* at 17414, Tables 7 and 8 (e.g., 23 of CARB's 32 tpd of NOx, and 1.07 of the District's 1.88 tpd of NOx).

¹⁰ 42 U.S.C. § 7410(a)(2)(A).

¹¹ EPA, Memo to Docket for rulemaking: "State Implementation Plans: Response to Petition for Rulemaking; Finding of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction" (EPA-HQ-OAR-2012-0322) ("SSM Memo") at 7 (Feb. 4, 2013) at 7.

¹² SSM Memo at 24.

¹³ 42 U.S.C. § 7604(a)(1).

¹⁴ *Id.* § 7413(a)(1).

The first question EPA must therefore answer is: what would constitute a violation of the SIP provisions being approved here. EPA suggests that the agency and citizens can enforce the commitments to achieve emission reductions, but EPA cannot explain what exactly would constitute a violation.¹⁵ CARB's commitment, for example, is to achieve 32 tpd of NOx emission reductions. Nothing in this "commitment" specifies where these emission reductions must come from nor whether they must be the result of some action by the agency or merely the result of favorable economic conditions, which is exactly how CARB has claimed compliance with similar "commitments" in the past. There is no way for EPA or citizens to look at the entire emissions inventory for the San Joaquin Valley (which is not actually specified as the correct standard for measuring compliance) on December 31, 2024 and determine whether CARB has achieved these emission reductions. Even if overall emissions increase between 2018 and 2024, CARB could still claim that but for some unspecified reason, those total emissions would have been 32 tpd higher. There is simply no way to prove that CARB has not achieved 32 tpd of NOx reductions. The commitment fails to define any possible violation and is not practicably enforceable.

The plan suggests, but does not actually commit, that most of these emission reductions will come from the accelerated turnover of mobile sources, but nothing in the rule commits CARB to achieve *any* truck or other equipment replacements. Allowing this sort of "commitment" means that a SIP becomes nothing more than an open-ended commitment to figure out how to reduce emissions, with no actual enforceable commitment to action. EPA's approach circumvents Clean Air Act section 110(k)(4), which limits this sort of promise to adopt enforceable measures in the future. The purpose of the SIP program is to compel States to identify the specific, enforceable actions they will take to reduce emissions. It is not enough for the State to merely promise to reduce emissions somehow and offer that citizens can sue the State if it fails.

(ii) *How could citizens independently verify compliance with these requirements?*

As noted above, the lack of defined violations makes independent verification impossible. Moreover the "commitment" includes no requirement to monitor or report on compliance. Even if CARB says it is "monitoring" implementation, there is no way for EPA or citizens to independently verify or prove otherwise.

This commitment suffers from an even more fundamental problem around verification. The emission reductions to be achieved (in theory) will come from projects that neither EPA nor citizens can independently verify because they involve voluntary incentive projects that are a matter of contract between the project applicant and the State or District. State enforceability alone, however, is not sufficient to demonstrate enforceability under the Act. These emission reductions must be independently verifiable by EPA and citizens.

The goal of the aggregate emission reduction commitment in the plan is to remove the requirement for enforceability against the actual sources by making CARB responsible for the emission reductions. The problem with this theory is that the "emission reductions" that CARB commits to achieve are measured only by CARB and the District and cannot be verified by anyone else. If CARB claims that it has satisfied its 32 tpd commitment because the incentive programs worked, there is no way for EPA or others to confirm that claim is in fact true. EPA and citizens cannot compel the

¹⁵ 85 Fed. Reg. at 17416 n. 348.

trucking companies to support the data submitted to CARB and the District. EPA and citizens must trust that CARB and the District have done their due diligence in verifying the data themselves, which may not be in the interest of these agencies because they do not want to be on the hook for making up any shortfall. Likewise, if CARB claims that its *substitute* measures reduce emissions by whatever the shortfall, again, there is nothing in the rule that ensures anyone else could verify that claim.

EPA's approach separates the emission reduction obligation from the emitter and makes the (theoretically) liable party in charge of determining compliance. There is no way that compliance with the emission reduction commitment can be independently verified by EPA or citizens. CARB is given the ability to deem itself in compliance with no possibility for others to challenge that determination.

(iii) *What is the penalty for noncompliance?*

The lack of defined violations is most apparent when trying to describe what penalties could be assessed or what corrective action could be compelled by a court. For example, assume somehow CARB were found in violation of the 32 tpd commitment, would CARB be subject to daily penalties until it achieved that reduction? Could it be compelled to adopt some replacement measure by the court? How would such a suit in equity be handled under the 11th Amendment? Is EPA the arbiter of whether the substitute measures are adequate? If so, there is effectively no penalty for violating the 32 tpd commitment. The only recourse for the Public is to repeatedly challenge EPA for arbitrarily letting CARB and the District fail to clean the air, which is not subject to remedies under 113.

EPA should explain exactly how a violation of these various commitments could be proved and enforced, and what the judicial remedy would be for citizens bringing an enforcement action. In doing so, EPA should explain why no one has ever been able to enforce similar State emission reduction commitments in the past and why this rule is different.

B. Under EPA's Three Factor Test, Approval of the Aggregate Commitments is Unreasonable.

EPA outlines a three-part test for determining whether to approve the enforceable commitment: (a) does the commitment address a limited portion of the CAA requirement; (b) is the State capable of fulfilling its commitment; and (c) is the commitment for a reasonable and appropriate period of time.¹⁶ EPA's analysis of these factors is conclusory and contrary to the record.

EPA acknowledges that 13.8 percent of the necessary NO_x reductions and over a quarter of the necessary PM_{2.5} reductions will supposedly come from these new aggregate commitments. *The level of these commitments is unprecedented and far from "limited."* EPA offers no record of support for its conclusion. EPA does not explain why these large percentages constitute a "limited portion of the total emission reductions needed" but instead points to the difficulty in identifying additional measures and suggests it is "reasonable for the State and District to seek additional time to adopt the last increment of emission reductions . . ."¹⁷ EPA's conclusion regarding the need for more time has nothing to do with whether the commitments represent a limited portion of the needed

¹⁶ 85 Fed. Reg. at 17416.

¹⁷ 85 Fed. Reg. at 17416.

reductions. These percentages far exceed guidance on the use of voluntary measures, and the ton-per-day levels of aggregate tonnage are beyond the levels of commitments approved in any prior SIP. This expectation that even larger tonnage reductions than have previously been approved in a SIP can magically be found is inconsistent with EPA's own conclusion that additional measures are more difficult to find. Indeed, EPA's conclusion is an admission that the State and District have not identified the necessary measures. Unlike plans for ozone, the Clean Air Act does not allow PM2.5 plans to include this sort of "black box" that permits plans to put off identification of measures.¹⁸ EPA's approval undermines the Act's basic planning requirements by suggesting that a plan need only include a blanket commitment to achieve necessary reductions, even if there is no identified path to actually doing so.

EPA's analysis of the second factor regarding the State's capacity to fulfill its commitments is even more unreasonable. The bulk of EPA's discussion focuses on the progress to adopt the identified control measures, while the bulk of the commitment strategy relies on incentives to achieve voluntary turnover in specified categories of mobile sources. For EPA to conclude that the State is capable of fulfilling its commitment, EPA must conclude that this incentive-dependent strategy, which is the only one the Plan identifies, is reasonable. For this strategy to work, CARB and the District must first be able to find the necessary funding, must then be able to use that money to achieve the level of turnover described, and finally must demonstrate that the specified level of turnover will result in the emission reductions anticipated. EPA cannot reasonably conclude that the State has demonstrated that it is capable of achieving any of this.

EPA notes that the plan identifies a total funding need of \$5 billion, including \$3.3 billion for heavy-duty trucks and buses, and \$1.4 billion for agricultural equipment.¹⁹ EPA lists the various funding programs and characterizes them as "well-funded."²⁰ EPA provides no analysis of how these programs line up with the funding need, or any assessment of whether the State is capable of fulfilling these targets. The 2018 CARB Staff Report shows that incentive funding streams at the time were capable of providing roughly \$350 million per year over the next seven years, far below the roughly \$850 million per year needed.²¹

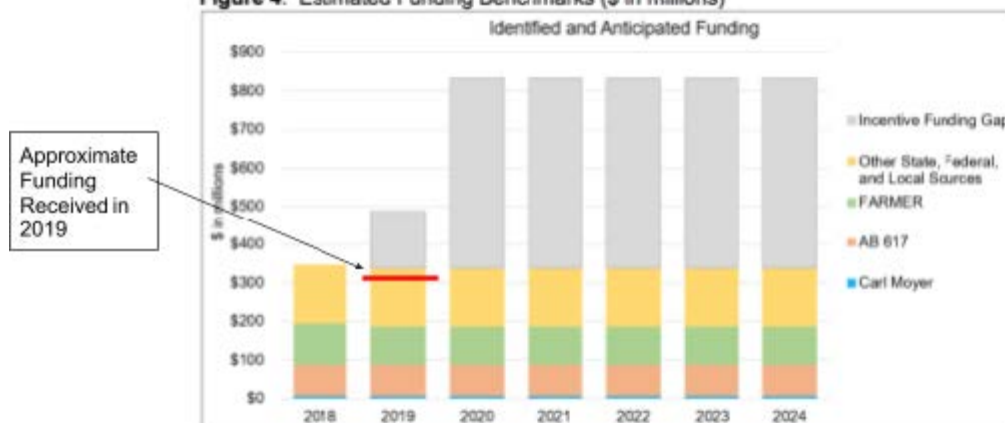
¹⁸ Cf. 42 U.S.C. § 7511a(e)(5).

¹⁹ 85 Fed. Reg. at 17417.

²⁰ *Id.*

²¹ CARB, *Staff Report Review of the San Joaquin Valley 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards*, at 27 (Fig. 4) (Dec. 21, 2018). Available at <https://ww3.arb.ca.gov/planning/sip/sjvpm25/2018plan/2018pm25staffreport.pdf>.

Figure 4. Estimated Funding Benchmarks (\$ in millions)



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When looking at the lifespan of just this Plan, the gap between what CARB and the District asked for in incentive funds versus what they are likely to receive is on track to grow to billions of dollars short of what the 2018 Plan specifies is needed for the Valley to reach attainment by 2024. For instance, as seen in the graph above, California’s first year ask for 2019 was \$487 million dollars, of which, CARB and the District received roughly \$150 million less than expected, and approximately \$50 million less than what was previously granted in 2018 State appropriations.

CARB offers no strategy for making up that shortfall. In fact, that shortfall has only grown over time. A recent presentation on CARB's Mobile Source Strategy shows that, as of March 2020, the State has not made up any of the shortfall in 2018 or 2019 and continues to fall well short of the needed incentives.²³ The CARB presentation further shows that the incentive funding deficit is even larger for the South Coast Air Basin – meaning that the State shortfall is not just the \$550 million per year for San Joaquin, but an additional \$800 million for South Coast.

Moreover, when taking into account the current COVID-19 crisis and anticipated economic fallout, the California Legislature will likely have significantly less funding available over the course of the next 5 years due to funding shortfalls in the State’s greenhouse gas reduction fund (GGRF), general budget, and other sources these incentive grant programs rely upon. Most of the remaining State funding will likely be channeled to COVID-relief efforts and other State priorities. These circumstances certainly do not result from a lack of effort by CARB, the District, impacted industries, and even environmental and public health advocates—all of whom have lobbied the California legislature extensively for additional funds to help fulfill the State’s clean air commitments.²⁴

Because there is no reason to think that all new sources of funding would go to the San Joaquin Valley, EPA must explain why it is reasonable to believe that the State is capable of finding *an additional* \$1.3 billion per year in new incentive funding (nearly 3 times as much as currently achieved by the State’s existing programs). The simple answer is that EPA cannot. Any realistic

²² *Id.* “Approximate Funding Received in 2019” added.

²³ CARB Webinar Slides, “2020 Mobile Source Strategy: A Vision for Clean Air” at Slide 47 (Mar. 25, 2020) (available at: https://ww3.arb.ca.gov/planning/sip/2020mss/pres_marwbnr.pdf).

²⁴ See generally, 2019 and 2020 coalition sign-on letters to the California legislature requesting addition clean air incentive funding for the Valley, included as Appendix A.

review would declare that there is no reasonable basis for believing this strategy will work, or that the State is capable of pulling off such a miracle.

EPA nonetheless points to a September 2019 CARB meeting where these incentives shortfalls were shared with the Board and suggests that the Board's recommendation to develop a "Plan B" is evidence that CARB is capable of fulfilling its commitment. Far from demonstrating any likelihood of success, the Board meeting is evidence of the recognition that the strategy outlined in the Plan is already failing and will not work.²⁵ EPA can point to no new plan that came out of the Board's directive to staff, because to date there is none. It is also worth noting that, to date, neither CARB nor the District have held or scheduled any workshops to "discuss additional reduction opportunities" despite Board direction to do so.²⁶ Thus, EPA proposes to approve a Plan that has no strategy that the State is capable of fulfilling.²⁷

Even if the State were capable of finding the money that is the foundation of its commitment, which it is not, the scale of "voluntary" replacement that it assumes is equally absurd. For example, the "plan" is to use \$3.3 billion over 6 years (2019-2024) to achieve 10 tpd of NOx reductions from the accelerated turnover of trucks and buses. The San Joaquin Valley Plan suggests incentives will replace 33,000 heavy-duty vehicles with newer technologies to achieve that level of emission reductions.²⁸ This means that over a dozen truck owners *per day, every day for the next seven years* will voluntarily choose to retire their trucks and replace them with advanced technology. Add to these numbers, thousands of pieces of agricultural and other off-road equipment being replaced every year, and it's not even clear that the agencies could process this many applications.

To put this in perspective, over the entire life of the Proposition 1B program, approved by voters almost 15 years ago, and the District's Truck Voucher Program, which was "designed to provide an alternative source of incentive funding for heavy-duty truck operators that were unable to obtain funding through the proposition 1B program," the District has replaced 4,500 trucks (roughly 300 per year, or less than one per day).²⁹ The best year for South Coast's passenger vehicle scrappage program was 2,600 vehicles.³⁰

There is no basis for believing that this level of voluntary turnover, which must be above and beyond natural turnover for trucks in the Valley, is realistic. EPA should have at least compared these numbers to truck population numbers and turnover rates in the Valley to see if an additional 15,000 trucks per year is plausible.³¹ EPA needs to provide a rational basis for concluding that the State can

²⁵ See J&K Court Reporting LLC, "Meeting, State of California Air Resources Board," at 101-102 (Sept. 19, 2019) (statement of Dr. John Balmes, noting that "when we did approve the current SIP a lot of people talked about the need for a plan B, if the incentive monies did not appear as we'd hoped. And I think I agree with some of the witnesses it's time to consider a plan B.").

²⁶ 85 Fed. Reg. at 17418

²⁷ See also, 42 USC § 7410(E), requiring that a SIP must "provide (i) necessary assurances that the State . . . or a regional agency designated by the State . . . will have adequate personnel, *funding*, and authority under State (and, as appropriate, local) law to carry out such implementation plan." (Emphasis added).

²⁸ SJVUAPCD, Attachment A - Supplement to the 2016 State Strategy for the SIP, at 24 (available at: <http://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/attachment-A.pdf>).

²⁹ SJVAPCD, *2018 Plan for the 1997, 2006, and 2012 Pm2.5 Standards*, (hereinafter 2018 Plan or Plan), at E-9.

³⁰ See, South Coast ACMD, *Rule 1610 - Old Vehicle Scrapping*. Available at, <http://www.aqmd.gov/home/programs/community/community-detail?title=oys>.

³¹ See, e.g., ACT Market Segment Analysis provided at CARB's Feb. 25, 2019 ACT Workshop (available at: <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks/act-meetings-workshops>).

fulfill its strategy for achieving this level of voluntary turnover, even if it miraculously found the money.

In fact, the District has a demonstrated track record of failing to use funds to achieve emissions reduction mitigation commitments. Pursuant to the 2015 Environmental Impact Report for Kern County's revised oil and gas ordinance and an accompanying "Oil and Gas Emission Reduction Agreement (OGERA)" signed by the county and District, the District—through November 2019—received almost \$89 million in fee monies to be spent on pollution reduction projects intended to compensate for otherwise unregulated oil and gas emissions.³² The District, however, has struggled to spend these funds. For example, the District's most recent annual report indicates that it received almost \$43 million from the OGERA and other emission reduction agreements for the period from July 1, 2018 to June 30, 2019, but was only able to spend \$12.5 million and encumber another \$6.6 million.³³ This shortfall in spending and encumbrances left the District with an ending unencumbered balance of more than \$48 million—reflecting an ever-growing failure of the District to spend OGERA and other emission reduction agreement receipts. The period-ending unencumbered balance for 2018 was \$13.6 million and \$6.4 million for 2017.³⁴ Meanwhile, these shortfalls in spending mean that air pollution from new oil and gas drilling is increasing unabated and worsening air quality.

Finally, there is no reasonable basis for concluding that CARB and the District, even if they found the money and achieved the level of turnover, could achieve the emission reductions committed to in the plan. As noted above, CARB and the District have been using incentive money for years to replace old mobile sources. As that turnover has occurred, the mobile sources left on the road (or off the road) are cleaner and cleaner. As the low-hanging fruit is picked, the emission reductions that this turnover can achieve become smaller and smaller per vehicle, and the cost per ton of reduction becomes higher and higher. EPA needs to provide some analysis showing that the targeted level of turnover can fulfill the aggregate emission reductions assuming lower marginal reductions and higher marginal costs.

The scale of the funding shortfall and the turnover required also undermines EPA's conclusion under the third factor of its three-part test – the commitment for a reasonable and appropriate period of time. EPA's conclusory analysis again looks only at the specific *rule* commitments with no discussion of the main part of the Plan's strategy.³⁵ Any such analysis would have shown that CARB and the District are already falling short on their funding targets, meaning they will need even more money in the future and they will need to achieve even greater levels of turnover in the years that are left. There is simply not enough time to make up the ground that has already been lost. Nor is it reasonable to believe that CARB and the District can wait any longer to develop a Plan B to achieve the emission reduction commitment. To achieve this level of reduction by 2024 means rules must

³² Kern County Oil and Gas Permitting Program Annual Progress Report (December 1, 2018 to November 30, 2019) at 7, 9-10 (available at https://psbweb.co.kern.ca.us/planning/pdfs/oil_gas/kern_oil_gas_annual_progress_report_2019.pdf).

³³ SJVAPCD 2019 Annual Report - Indirect Source Review Program at 9 (available at <https://www.valleyair.org/ISR/Documents/2019-Annual-Report.pdf>).

³⁴ See SJVAPCD 2018 Annual Report - Indirect Source Review Program at 10 (available at <https://www.valleyair.org/ISR/Documents/2018-Annual-Report.pdf>); SJVAPCD 2017 Annual Report - Indirect Source Review Program at 7 (available at <https://www.valleyair.org/ISR/Documents/2017-ISR-Annual-Report.pdf>).

³⁵ 85 Fed. Reg. at 17418.

be in place beforehand, which means rulemaking must be occurring now. A disapproval of these aggregate commitments will trigger that required effort, hopefully with enough time to meet the attainment deadline.

EPA has provided none of the necessary analysis to reasonably conclude that the plan provides any strategy for achieving the massive aggregate emission reduction commitments in the SIP, and no such support exists in the record. What the State has submitted is not a "plan"—it is an unenforceable promise with no basis for believing it can be kept. This is not what the Clean Air Act requires. EPA should disapprove the Plan and direct CARB and the District to submit a plan that outlines a strategy that does not rely on unrealistic voluntary incentives. If accelerated turnover is what is required, CARB and the District should adopt rules to mandate that turnover and use their limited funds to assist with that compliance burden rather than making people who deserve clean air and the success of the plan the ones to pay for any funding shortfall.

III. The State's Plan Fails to Meet Requirements for the Approval of a Serious Area Attainment Plan.

EPA proposes to approve of the San Joaquin Valley's Serious area attainment planning requirements for the 2006 PM_{2.5} standard. Under the CAA, Serious area SIP's are required to meet numerous criteria, including: "[b]ase year and attainment projected emissions inventory requirements in 40 CFR 51.1008(b) . . . most stringent measure requirement in 40 CFR 51.1005(b)(1)(iii) and 51.1010(b), and best available control measures not previously submitted . . . reasonable further progress [RFP] requirements in 40 CFR 51.1012; . . . quantitative milestone requirements in 40 CR 51.1013; . . . [and] contingency measure requirements in 40 CFR 51.1013.³⁶ For the following reasons, we believe that the State's Serious area planning requirements for the Valley were not met, and, thus, EPA should reject the Valley's 2006 PM_{2.5} SIP and require the SIP to be significantly revised prior to approval.

A. The State's Emissions Inventories are Inaccurate.

CAA § 172(c)(3) requires SIPs to include a comprehensive emissions inventory for both the selected baseline year, as well as for the projected attainment year and each RFP milestone year.³⁷ As noted above in section I, the inventories are not approvable because they rely on the EMFAC2014 model, which does not account for EPA's decision to void California's GHG and ZEV standards. The inventory is also flawed because CARB and the District did not fully account for sources such as NO_x emissions from soil—especially as it relates to manmade soil NO_x emissions from sources like fertilizer treatments and how additional soil NO_x interacts with existing ammonia emissions. Moreover, we foresee significant defects with the State's forecasted inventories due to issues such as the lack of incentive funding and inability of agencies to achieve mobile source turnover at the levels included in the plan.

B. Additional Enforceable Commitments are Needed to Achieve Consistency with Reasonable Further Progress and Quantitative Milestone Requirements.

Many of the same concerns we have identified above are also relevant to determining whether the State has demonstrated compliance with RFP and quantitative milestone requirements.

³⁶ 85 Fed. Reg. at 17386.

³⁷ See also, 40 CFR 51.1004, 1008, 1011, and 1012.

Specifically, issues such as the lack of funding for incentive-based measures and unspecified aggregate emission reduction commitments create far too much uncertainty in terms of what progress the San Joaquin Valley will be able to achieve moving forward. Even where CARB and the District have committed to developing or updating regulatory measures, the timing for implementation of those measures remains a concern. For instance, the implementation of regulatory measures related to District Rules 4311, 4306, and 4320 are listed in the 2018 PM2.5 plan as beginning in 2023, however, in hearings to solicit scoping comments on these rules the District has now specified that implementation for all three of these rules is likely to begin in 2024, not 2023.³⁸ EPA expressly requests comments on whether “additional enforceable commitments for regulatory action to implement emissions controls” are necessary for the RFP interim years of 2022/2023. We strongly recommend that EPA require additional enforceable regulatory actions in 2022 and 2023 to ensure attainment prior to the 2024 attainment deadline and that those actions should consist of specific regulatory control measures as opposed to the aggregate tonnage commitments.

C. The 2006 Serious Area Attainment Plan Lacks Adequate Contingency Measures.

Under CAA section 172(c)(9), a State must address “contingency measure[s] to be implemented if the area fails to meet RFP or attain by the applicable attainment date.”³⁹ As stated in the proposed rulemaking, “The EPA is not, at this time, proposing to act on those portions of the “2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards” or the “San Joaquin Valley Supplement to the 2016 State Strategy for the State Implementation Plan” that pertain to the 1997 PM2.5 NAAQS, the 2012 PM2.5 NAAQS, or *Serious area contingency measures*.”⁴⁰ Absent approval of the contingency measures included in the State’s 2018 PM2.5 plan, we must conclude that this rulemaking falls short of qualifying as full approval of the State’s SIP for the 2006 standard. Therefore, we expect final approval of the 2006 SIP is still forthcoming. Looking ahead, we advise EPA to consider the following when looking to approve of contingency measures included in the 2006 PM2.5 SIP:

- Existing contingency measures included in the 2018 Plan (such as those requiring increased enforcement of existing measures) are not likely to be enough to make up for the significant shortfalls in this plan, e.g. the lack of incentive funding.
- Additional contingency measures should be required and must take the form of clearly defined regulatory measures (i.e. a Plan-B) that ensures timely attainment—as opposed to ambiguous aggregate tonnage commitments.
- The District’s contingency measure to expand “hot spot” requirements to other counties in the Valley is a feasible measure and should be required prior to attainment failure, or, at the very least, upon failure to meet RFP or quantitative milestones.

IV. The State’s Plan Fails to Meet Requirements for Areas Seeking a 5-year Extension of a Serious Area Attainment Date.

³⁸ 85 Fed. Reg. at 17424. *See also generally*, Scoping presentations for District Rules 4311, 4306, and 4320. Available at, https://www.valleyair.org/Workshops/public_workshops_idx.htm. *See also*, Scoping comments by CVAQ, et.al. Included as Appendix B.

³⁹ *See also*, 85 Fed. Reg. At 17385.

⁴⁰ 85 Fed. Reg. At 17384 FN. 18.

Under section 188(e) of the CAA, a state may apply to the EPA for a single extension of the Serious area attainment date by up to five years.⁴¹ In requesting a 5-year extension, a state must meet several requirements, including, (a) compliance with “all requirements and commitments pertaining to the area in the implementation plan;” (b) inclusion of “the most stringent measures that are achieved in practice in any state and are feasible for the area;” and (c) “a demonstration of attainment by the most expeditious alternative date practicable.”⁴² We believe California has failed to meet CAA requirements for approval of a PM2.5 Serious area attainment extension request for the following reasons.

A. Inconsistent Methodologies Have Made It Unclear Whether the Valley Has Met Previous Requirements and Commitments.

Part 3 of the 5-part test for a state to be granted a 5-year extension in attainment requires that a state must “demonstrate that it has complied with all requirements and commitments pertaining to the area in the implementation plan.”⁴³ In this proposed rulemaking, EPA has drawn attention to and seeks comment upon CARB’s use of inconsistent methodologies to arrive at emissions estimates and to make comparisons between yearly average contribution of residential wood-burning to PM2.5 emissions over time. These comparisons are necessary to determine whether SJV and CARB have fulfilled their commitment to reduce residential wood burning by 1.9 tons per day by 2017, as committed to in the adopted “2012 PM2.5 Plan and Supplement.”⁴⁴

As EPA has detailed, when consistent methodologies are used to arrive at annual average tpd emissions estimates for the contribution of residential wood-burning to direct PM2.5 in the Valley, the District clearly has not fulfilled the emission reductions committed to in the 2012 SIP—having only achieved reductions of .86 tpd by 2017. For the purpose of comparison, a consistent method of estimating how many residents are using a wood-burning appliance would be preferred and should be employed to ensure an accurate measure of whether the Valley has met its previous commitments.

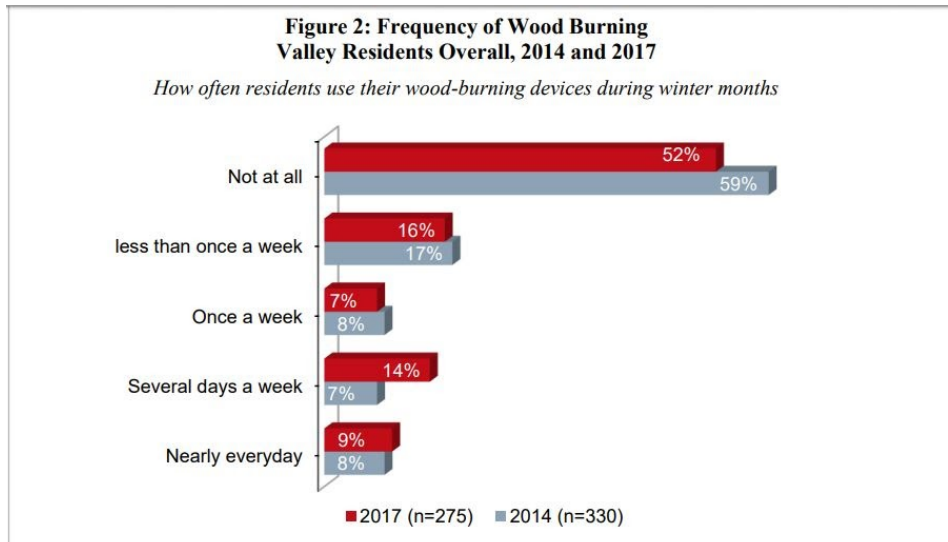
If the SJVAPCD and CARB are to be guided and informed by the narrow sample obtained by the 2014 Residential Wood Combustion User Activity Survey conducted on the District’s behalf by Gomez Research—and if EPA is to accept survey methodology for determining the extent of residential wood-burning in the Valley—available evidence from a comparison of the 2014 survey to a second district survey conducted in 2017 should be considered. This comparison shows that over the relevant period when the stronger curtailment thresholds were first imposed beginning in November of 2014, residential wood burning had actually *increased* by 2017, with fewer residents reporting no use of a wood-burning device and more residents reporting the use of a wood-burning device several times a week. (See graph below). This calls into question what emission reductions, if any, may have been achieved—or, rather, if residential wood-burning emissions might have increased, as a comparison of the two surveys indicates.

⁴¹ 42 USC §7513(e)

⁴² *Id.*

⁴³ 40 CFR 51.1005(b)

⁴⁴ 85 Fed. Reg. at 17415.



*Figure based on Q5: "How often do you use your fireplace/stove in the winter? Nearly every day, several days a week, once a week, less than once a week, or not at all?" Don't know/refused not charted. 45

The survey indicates greater reported use of a wood-burning fireplace or stove in the winter of 2017 in comparison to 2014. If survey data is to be deemed a determinative reflection of the extent of residential wood-burning, then the evident increase in residential wood-burning over the relevant period would indicate a statistically significant failure of the stronger Rule 4901 control measures imposed to have curtailed the use of wood-burning devices and reduce PM2.5 emissions. Further, it is difficult to see any improvement in PM2.5 values, for instance, see the graph below displaying the 98th percentile values as observed in Fresno County over the relevant period. If this is indeed the case, there does not appear to be a reasonable basis for believing prior commitments in the 2012 plan have been met.

Air Resources Board		iADAM FAQs						
Select 8 Summary		PM2.5						
		National 98th Percentile						
Monitoring Sites		2012	2013	2014	2015	2016	2017	2018
Fresno County								
Fresno-Garland		52.6	63.8	66.7	52.0	42.7	68.0	63.5

B. The State Failed to Demonstrate That the Plan Includes the Most Stringent Measures, as well as the Best Available Control Measures for all Sources in the San Joaquin Valley.

EPA has defined most stringent measures (MSM) as “any permanent and enforceable control measure that achieves the most stringent emissions reductions in direct PM 2.5 emissions and/or emissions of PM 2.5 plan precursors from among those control measures which are either *included in the SIP for any other NAAQS, or have been achieved in practice in any state*, and that can feasibly be implemented in the relevant PM 2.5 NAAQS nonattainment area.”⁴⁷ Additionally, EPA interprets

⁴⁵SJVAPCD, 2017 Residential Wood Combustion (RWC) User Activity Survey, Final Report, p.6. Available at http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2018/January/final/10.pdf.

⁴⁶ CARB, ADAM: Air Quality Data Statistics: Select 8 Summary. Available at, <https://www.arb.ca.gov/adam/select8/sc8display.php>.

⁴⁷ 40 CFR 51.1000

the CAA's MSM provision to require states to reanalyze BACM/BACT requirements to see if they are more feasible in an area given the longer attainment date sought under section 188(e) of the CAA.⁴⁸ We believe the State has failed to demonstrate MSM and BACT/BACM for each of the following sources.

1. Mobile Sources:

Achieving the necessary NOx reductions from mobile sources requires a dramatic acceleration of turnover from high-polluting engines to zero- and near-zero emission technologies. Yet the Plan's reliance on voluntary incentives to accelerate fleet and equipment turnover is a clear failure to implement most stringent measures for the Valley's largest source of NOx. CARB's mobile source measures include:

- Accelerated Turnover of Trucks and Buses
- Accelerated Turnover of Agricultural Equipment
- Accelerated Turnover of Off-Road Equipment

While the availability of funding to enable these incentive-based strategies is in question, the availability of the technology is obviously not. Zero- and near-zero emission technologies are available and used in practice in the Valley for each of the mobile sources that require faster turnover. The Plan could straightforwardly increase the stringency of these measures by mandating necessary turnover, yet, provides no consideration for this approach.

Accelerated Turnover of Trucks and Buses: The Plan's proposed action is to use funding to increase penetration of near-zero and zero-emission heavy-duty trucks with significant activity in the Valley and accelerate the turnover of approximately 33,000 heavy-duty diesel trucks.⁴⁹ CARB already requires accelerated turnover of the in-use fleet to cleaner, but not cleanest, emission control and engine technologies. CARB should have evaluated a mandate to accelerate turnover of heavily polluting vehicles and increased penetration of zero-emission trucks.

Zero-emission heavy-duty vehicles offer the greatest emission reduction benefit, both because they have zero-tailpipe emissions of NOx and because they reduce upstream emissions from petroleum drilling and refining, a substantial source of PM in the southern San Joaquin Valley.⁵⁰ Their technological feasibility is well-supported by CARB research. A wide range of ZE trucks are commercially available today and virtually all established manufacturers—Cummins, Ford, Freightliner, Peterbilt, Navistar, and Volvo, have ZE commercialization plans prior to 2024.⁵¹ CARB's own assessment finds that nearly 40 percent of identified truck markets are highly suitable for ZE vehicles (i.e. have a suitability score of 1 or 2 out of 10).⁵² Average trucks in the San Joaquin

⁴⁸ 85 Fed. Reg. at 17387.

⁴⁹ 2018 Plan, Attachment A – Supplement to the 2016 State Strategy for the SIP, at 24

<https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/Attachment-A.pdf>

⁵⁰ California Energy Commission, Air Quality Implications of an Energy Scenario for California Using High Levels of Electrification, (June 2019) at 18 <https://ww2.energy.ca.gov/2019publications/CEC-500-2019-049/CEC-500-2019-049.pdf>.

⁵¹ CARB, Zero-Emission Fleet Rule Workshop Advanced Clean Truck Fleets, (Feb 12, 2020) at Slide 25

https://ww2.arb.ca.gov/sites/default/files/2020-02/200212presentation_ADA.pdf.

⁵² CARB, Advanced Clean Truck Regulation, Appendix E – Zero Emission Truck Market Assessment (Oct. 2019) <https://ww3.arb.ca.gov/regact/2019/act2019/appe.pdf>.

Valley are particularly ripe for electrification, with frequent stops and routes averaging between 48 and 71 miles.⁵³

Moreover, the economic feasibility of requiring fleets to transition to zero-emission trucks is supported by their lower operating and maintenance costs. CARB's 2018 cost analysis demonstrates that in certain truck classes, ZE trucks already had favorable total cost of ownership compared to diesel trucks, and by 2024, battery-electric trucks will have neutral or positive total cost of ownership compared to diesel in each of the cases examined.⁵⁴ Even in edge cases where upfront capital costs for zero-emission vehicles and infrastructure outweigh their superior operating and maintenance costs, CARB could require, rather than solely incentivize, the purchase of ultra-low NOx trucks that meet standards of .1, .05, and .02 g/bhp-hr. These trucks are also available today--in the past two years, CARB has already certified trucks that meet the .02 g/bhp-hr of NOx standard in their Optional Low-NOx regulation.⁵⁵

Accelerated Turnover of Agricultural Equipment: The Plan's proposed action is to rely on unidentified and unsecured incentive funding to accelerate the turnover of 12,000 tier 0, tier 1 and tier 2 agricultural equipment to the cleanest available technology (either tier 4 or zero-emission).⁵⁶ For reference, between 2016 and 2018, funding from both the USDA's Natural Resource Conservation Service grant program⁵⁷ and the District's incentive program have collectively funded just 1,000 projects. If the District achieved 1,000 replacements over 2 years, it is difficult to believe that 12,000 replacements could happen in 4 years with funding that is yet to be identified or secured.

The Cleaner In-Use Agricultural Equipment measure, which CARB refers to as a "backstop" rule, only requires equipment in the Valley to be Tier 2 by 2030. For the rule to truly act as a backstop, the Plan should have amended the measure so that in-use fleets be Tier 2 or cleaner by the attainment deadline in 2024. The Plan provides no consideration of this common-sense approach, nor any justification for relying on the obviously less-stringent backstop date of 2030. The Plan only notes that there are financial barriers for small farmers to acquire cleaner engines, but this is a completely insufficient basis to reject additional regulatory backstops. The Plan could have addressed potential economic barriers by targeting only larger farms or farms earning revenues above a certain level. Indeed, setting appropriate mandates for in-use emission reductions would allow CARB and the District to reserve their limited pot of incentives for smaller farms which are able to demonstrate their need for assistance to meet compliance. None of these potential measures are considered.

Accelerated Turnover of Off-Road Equipment: The Plan's proposed action is to accelerate the turnover of an unspecified number of off-road equipment such as transportation refrigeration units (TRUs), construction equipment, forklifts, and drilling rigs to zero- or near-zero emission engines. CARB already has an off-road regulation that requires accelerated penetration of the cleanest

⁵³ Resource System Group, Inc., San Joaquin Valley Model Improvement Program Freight Forecasting Models (Oct 2013) at 17 <https://rsginc.com/files/publications/SJV%20freight%20forecasting%20models%20documentation.pdf>.

⁵⁴ CARB, Appendix H - Draft Advanced Clean Trucks Total Cost of Ownership Discussion Document (Feb. 22, 2019) at 2 <https://ww3.arb.ca.gov/regact/2019/act2019/apph.pdf>.

⁵⁵ CARB, Heavy-Duty Low NOx Program Proposed Heavy-Duty Engine Standards, (Sept. 26, 2019) at Slide 11 https://ww3.arb.ca.gov/msprog/hdlownox/files/workgroup_20190926/staff/01_hde_standards.pdf?_ga=2.139910579.1074750982.1579278859-1763121676.1571767087.

⁵⁶ SJVUAPCD, Attachment A - Supplement to the 2016 State Strategy for the SIP, <https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/Attachment-A.pdf> at 26.

⁵⁷ *Id.* At 29.

equipment by requiring owners to modernize their fleets and replace older engines with newer, cleaner models. Yet, it provides no analysis for amending this regulation to expand and increase the rate of turnover that CARB says is necessary. This omission is inexplicable, given that many available zero-emission alternatives are not only likely to be cost-effective, but cost saving. For example, CARB notes that battery-electric forklifts are already in operation throughout California and in the Valley,⁵⁸ and they “offer reduced maintenance requirements, lifetime cost savings, and cleaner tailpipe emissions.”⁵⁹ These acknowledgements undermine any implication that a measure mandating accelerated turnover to zero-emission forklifts does not even merit evaluation.

The Plan’s MSM for mobile sources fails overall because it includes no discussion of mandating the accelerated turnover to the cleanest technologies currently being incentivized—an approach that would obviously be more stringent than reliance on voluntary turnover. To the extent that CARB and the District believe the economic infeasibility of mandates is implicit, their position is not reconciled with their own research demonstrating the cost-advantages of zero-emission technologies in many instances.

The Plan could have entertained a number of policy designs to overcome financial barriers, e.g. by setting up revolving loan funds that generate new revenue from charging infrastructure for additional investment, targeting regulations to larger fleets and farmers, and reserving limited funds for the most under-resources operators. In any event, they failed to explain and support the position they have defaulted to, which is to allow Valley residents to continue to breathe harmful levels of PM2.5 unless and until \$5 billion in incentive funds are made available and deployed at record-speed.

2. Stationary and Area Sources:

Community groups and stakeholders have repeatedly detailed the ways in which the San Joaquin Valley Air District could improve controls on stationary and area sources of air pollution to achieve more expeditious attainment of air quality standards.⁶⁰ Unfortunately, the following sources remain inadequately controlled under the San Joaquin Valley SIP.

Open Burning: Next to residential wood burning, agricultural burning is the second largest source of directly emitted PM2.5 in the San Joaquin Valley. Burning of agricultural waste was standard practice prior to the 1990s. This included burning of whole trees upon orchard removal as well as branches from regular tree and vineyard pruning.⁶¹ While cogeneration facilities that converted woody waste into electricity were a reliable option in the ensuing decades, these power plants are being phased out in California and have proven to be major stationary sources of PM2.5 pollution themselves. With that change, farmers have started shifting to a new technique: whole orchard recycling. The failure to require whole orchard recycling and/or require significant reductions in open burning in the Valley is a failure to ensure the most stringent measure is met for this source category.

⁵⁸ *Id.* at 32.

⁵⁹ 2018 Plan, Appendix D: Mobile Source Analyses at D-68.

⁶⁰ See generally, CVAQ coalition comments submitted to CARB and the District on the 2018 PM2.5 SIP on September 30th, 2018, January 22nd, 2019, September 17, 2019 included as Appendices C, D, and E respectively. See also generally, January 31st, 2020 CVAQ et.al. Scoping Comments to the District included as Appendix B.

⁶¹ Almond Board of California, *2025 Goals, Zero Waste*. Available at, <http://www.almonds.com/sites/default/files/Goals%20Roadmap%202019%20-%20Waste%20Page.pdf>.

Research conducted in 2006-2008 compared whole orchard recycling to burning and incorporating the ash. Ultimately, greater yields, significantly more soil nutrients, organic matter, and total carbon were observed in the grind treatment when compared to the burn. Cumulative yields from 2011-2017 found the grind treatment were greater than the burn by 1,587 pounds/acre, and leaf petiole analysis revealed higher nutrient levels in trees growing in the grind treatment.⁶²

The Almond industry in California's San Joaquin Valley is a great example of not only the promise of, but the reality of whole orchard recycling. Almonds are California's second largest acreage crop and the State's most valuable agricultural export.⁶³ The Almond Board – which represents 6,800 almond growers and 100 processors in California – funded research that estimates over 20,000 acres in CA have been ground and incorporated in the last three years (2016-2018).⁶⁴ In fact, by 2025, the California almond growing community has committed to achieve zero waste in orchards, a commitment that includes the practice of whole orchard recycling.⁶⁵

Funding for whole orchard recycling has also increased and is now available from federal, state and regional pots. Funding sources include the federal Conservation Stewardship Program, the federal Environmental Quality Incentives Program, the California Healthy Soils Program, and the San Joaquin Valley Air District's Alternatives to Open Burning of Agricultural Burn Materials Pilot Program. In November 2018, the Valley Air District authorized up to \$1,000,000 in funding for the Alternatives to Open Burning Program. The purpose of this program was to demonstrate the feasibility of utilizing chipped agricultural material for soil incorporation or as a surface application as an alternative to open burning. Since opening the program in December 2018, the level of interest from the agricultural community has been very strong.⁶⁶ To meet the demand in the program, the District Board authorized an additional \$1,000,000 in April 2019, and then another \$1,500,000 as part of the Incentive Spending Plan adopted as part of the District's FY 2019-20 Budget. Since opening the program, the District received eligible applications requesting up to \$3.47 million in incentive funding representing nearly 6,700 acres of orchard and vineyard removals. In September of 2019, an additional \$1,500,000 was allocated to match the level of interest for the program.

Research has shown that whole orchard recycling is beneficial to both the environment and industry's bottom line, the almond industry has embraced the practice, and now funding is available to match the strong demand. Given the availability of practicable alternatives to open burning, such as whole orchard recycling, we believe the District's rule 4103 fails to achieve MSM and BACM/BACT by not requiring burn alternatives, like whole orchard recycling. Under section 188(e), whole orchard recycling is a more stringent measure "achieved in practice . . . [that] can feasibly be implemented in the area." Moreover, we disagree with the premise of EPA's assessment that Rule 4103 'as a whole' is the most stringent measure in the nation. As stated in comments to EPA on the proposed approval of the District's rules for wood fireplaces and heaters, we believe

⁶² Almond Board of California & University of California Cooperative Extension, *Almond Orchard Recycling*. Available at <https://rd.almondboard.com/files/Almond%20Orchard%20Recycling%20%285%29.pdf>.

⁶³ Almond Board of California, *ABOUT*. Available at <http://www.almonds.com/consumers/about-the-almond-board/overview>.

⁶⁴ Almond Board of California & University of California Cooperative Extension, *Almond Orchard Recycling*. Available at <https://rd.almondboard.com/files/Almond%20Orchard%20Recycling%20%285%29.pdf>.

⁶⁵ Almond Board of California, *2025 Goals, Zero Waste*. Available at <http://www.almonds.com/sites/default/files/Goals%20Roadmap%202019%20-%20Waste%20Page.pdf>.

⁶⁶ San Joaquin Valley Air Pollution Control District, *September 2019 Board Meeting: Item 11*, page 2. Available at https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2019/September/final/11.pdf.

this 'holistic' approach violates the CAA by analyzing MSM and BACM/BACT requirements for the rule as a whole as opposed to individual source categories, i.e. the District is required to implement the most stringent measures for all individual open burning source categories, not just for open burning as a whole.⁶⁷

Boilers, Steam Generators, and Process Heaters Greater Than 5.0 Million British Thermal Units per Hour (MMBtu/hr): There are multiple ways in which rules on boilers, steam generators and process heaters fail to meet Clean Air Act requirements. For instance, the SJVAPCD provides a loophole that results in less stringent measures than what is seen in other air districts by allowing owners and operators of boilers and steam generators to pay an annual emissions fee in lieu of complying with emission limits. Conversely, the South Coast Air Quality Management District's rule 1146 for boilers, steam generators, and process heaters equal or greater than 5 MMBtu/hr requires full compliance with limits without the option of paying an emissions fee. In order for this rule to meet the MSM standard required under the CAA, the District must eliminate annual emission fees as an alternative to full compliance with the standards proposed.

Furthermore, additional NO_x controls could be mandated. Boilers and steam generators generate tons of oxides of nitrate (NO_x), (a gaseous precursor that when combined with ammonia or oxides of sulfate create ammonium nitrate and ammonium sulfate, both of which are fine particulates). There are number of boilers and steam generators in the San Joaquin Valley that employ ultra-low NO_x technology, such as Clearsign Duplex Burners, to reduce NO_x emissions. For instance, this technology has been installed at two refineries and one oilfield production facility in the Valley.⁶⁸ The facilities have indicated the potential to achieve NO_x emissions less than 5 ppmv @ 3% CO₂. MSM requires all boilers and steam generators would need to be held to this standard, as this practice has been achieved in practice and has already been implemented in the Valley

Flares: Due to the recent adoption of Rule 1118.1 by the South Coast Air Quality Management District (SCAQMD), the San Joaquin Valley Air District's Rule 4311 is not the most stringent measure for flaring. To achieve consistency with the SCAQMD Rule, the District must expand emission reduction efforts to include "non-refinery facilities, including, but not limited to, oil and gas production facilities, wastewater treatment facilities, landfills, and organic liquid handling facilities," so that emissions from flaring produced gas, digester gas, landfill gas, and other combustible gases or vapors are reduced and alternatives to flaring are encouraged.⁶⁹

Additionally, there exists a new class of NO_x emission control devices identified by the District in the Stationary Source Control Measure Analysis. VOC deconstruction devices offer ultra-low NO_x emissions of approximately 0.018-0.025 lb-NO_x/MMbtu and would allow significant emissions below the current rule's requirement of 0.068 lb-NO_x/MMbtu.⁷⁰ This technology has been achieved in practice. One 'Permit to Operate' and at least eight 'Authority to Construct' permits

⁶⁷ See, Appendix F at 1-2.

⁶⁸ San Joaquin Valley Air Pollution Control District. 2018 PM 2.5 Plan: Appendix C: Stationary Source Control Measure Analysis, page C-79. Available at <https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf>.

⁶⁹ South Coast Air Quality Management District. Rule 1118.1. Available at <https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/R1118-1.pdf?sfvrsn=9>.

⁷⁰ San Joaquin Valley Air Pollution Control District. 2018 PM 2.5 Plan: Appendix C Stationary Control Measure Analyses, pg. C-156, Available at <https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf>

have been issued in the Valley.⁷¹ Furthermore, thermal incineration controls, such as steam injection for NOx emissions controls, are also being achieved in practice in various facilities and should therefore be held as the standard to meet MSM requirements where applicable.⁷²

Solid Fuel-Fired Boilers: Owner-operators of solid fuel-fired boilers in states and countries across the world have achieved more stringent emission controls than those in the San Joaquin Valley. Biomass-fired boilers in the Valley are old and predominantly use electrostatic precipitators for PM control. This equipment is geared more toward reducing large particles, not PM2.5. Baghouses are better designed to reduce PM2.5 emissions and are thus the more stringent technology. Baghouse controls have been achieved in practice in facilities across the globe. For instance, the Quillayute Valley School District Biomass Boiler in Forks, Washington uses a combination of advanced Metals cyclones and Filter Technology baghouses.⁷³ Precision Energy Services designed a baghouse emission control technology for a solid fuel fired boiler for Atlantic Packaging in Ontario, Canada.⁷⁴ Two boilers at the University of Iowa utilize baghouses.⁷⁵ The Redecam Group, which previously supplied baghouse emission controls for the Lisahally Biomass Plant in Derry/Londonderry, Northern Ireland, was contracted to create similar baghouse controls for two biomass energy plants by Burmeister & Wain Scandinavian Contractor A/S in Merseyside, England, and The Snetterton project in East Anglia, England.⁷⁶ The US EPA has already documented the feasibility, costs and efficiencies of baghouses for industrial coal and wood-fired boilers.⁷⁷ By not mandating the cleanest technologies, the Valley Air District is not meeting the MSM and BACM/BACT requirements for PM2.5 on solid fuel-fired boilers.

Additionally, District Rule 4352 contains a NOx emissions limit exemption that allows NOx emissions limits to not apply during startups and shutdowns.⁷⁸ This is an exemption not found in the Sacramento Air Quality Management District 's Rule 411.⁷⁹ This exemption undermines MSM requirements.

Glass Melting Furnaces: The District is not meeting MSM and BACM/BACT requirements as they pertain to glass manufacturing. In the same vein as solid fuel-fired boilers, the South Coast Air Quality Management District's (SCAQMD) BACT guidelines for glass furnaces identified a

⁷¹ San Joaquin Valley Air Pollution Control District. 2018 PM 2.5 Appendix C: Stationary Source Control Measure Analyses. Pg. C-156. Available at: <https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf>

⁷² Alon Bakersfield Refining; Permit S-33-18-11, S-33-64-5, S-33-65- California Resources Production Corp, Permit S-40-3-9.

⁷³ Washington Statewide Wood Energy, CASE STUDY: Quillayute Valley School District Biomass Boiler, at page 3. Available at http://sustainablenorthwest.org/uploads/general/2016_April_Forks_WA_biomass_case_story_final.pdf.

⁷⁴ Biomass Magazine, PES: New combustions systems benefit 2 Toronto-area paper mills. Available at <http://biomassmagazine.com/articles/14977/pes-new-combustions-systems-benefit-2-toronto-area-paper-mills>.

⁷⁵ University of Iowa, University of Iowa Power Plant. Available at https://www.facilities.uiowa.edu/sites/www.facilities.uiowa.edu/files/wysiwyg_uploads/ppbrochure_1.pdf.

⁷⁶ Redecam Group, Redecam Awarded Two Contracts by BWSC for Biomass Plants in England. Available at <http://www.redecam.com/2015/03/redecam-awarded-two-contracts-by-bwsc-for-biomass-plants-in-england/>.

⁷⁷ United States Environmental Protection Agency, Air Pollution Control Technology Fact Sheet. Available at <https://www3.epa.gov/ttnchie1/mkb/documents/ff-pulse.pdf>.

⁷⁸ San Joaquin Air Pollution Control District, Rule 4352. Available at <https://www.valleyair.org/rules/currnrules/r4352.pdf>.

⁷⁹ Sacramento Air Quality Management District. Rule 411. Available at <http://www.airquality.org/ProgramCoordination/Documents/rule411.pdf#search=Rule%20411>

baghouse as the best control technology application for PM,⁸⁰ yet, most facilities in the San Joaquin Valley do not utilize them. Baghouses should be considered MSM and BACM/BACT and applied to glass melting furnaces in the region. Looking forward, some facilities in the Valley are more advanced, and, thus, set the standard for what is feasible. A review of facility permits of glass facilities in the San Joaquin Valley revealed that Gallo Glass Company, located in Modesto, CA contains an Electric Glass Melting Furnace.⁸¹ The operation of electric furnaces eliminates on-site emissions of PM_{2.5} and reduces multiple PM precursors when compared to gas-fired furnaces. Electric furnaces for glass melting must be considered MSM and BACM/BACT.

Stationary IC Engines: The District Agricultural Pump Replacement program currently provides funding to replace diesel, natural gas or propane engines with electric motors. Potential amendments to Rule 4702 would also seeks to replace spark-ignited agricultural engines with electric motors where access to electricity is available. To maintain stringency, the replacement of conventional internal combustion (IC) engines with electric engines would have to apply to agricultural *and* non-agricultural IC engines, including those used on oil fields.

In a similar fashion, past amendments to Rule 4702 established lower NO_x limits for non-agricultural engines between 25-50 parts per million volume (ppmv) (rich-burn) and 65-75 ppmv (lean-burn). A proposed amendment to Rule 4702 seeks to further reduce NO_x from 11 ppmv to 5 ppmv. Because non-agricultural IC Engines have demonstrated an ability to lower NO_x levels to 11 ppmv, all IC Engines should be held to the same standard, including agricultural engines. Exemptions for agricultural IC engines undermines the most stringent measures requirement.

Furthermore, for PM_{2.5} control of stationary IC engines, Diesel Oxidation Catalysts (DOCs) could be used. DOCs convert the soluble organic fraction (SOF) of diesel particulate matter (PM) into carbon dioxide and water. DOCs can also reduce smoke emissions and virtually eliminate the characteristic odor associated with diesel exhaust. DOCs are relatively maintenance free, only requiring periodic inspection by the owner. Additionally, DOCs have been shown to be effective with units using biodiesel and emulsified diesel fuels, ethanol/diesel blends, and other diesel alternatives.⁸² Engine manufacturers have used DOCs in different in-use applications for many years, and DOCs are widely used as a retrofit technology because of their simplicity and limited maintenance requirements.⁸³ Wall-Flow Diesel Particulate Filters (DPFs) also remove particulate matter in diesel exhaust by filtering the exhaust from the engine. DPFs verified by EPA and CARB are typically effective at reducing emissions of PM by 85 to 90 percent or more.⁸⁴ For units that are not able to immediately become electric, DOCs and/or DPFs should be required in order to reduce particulate matter emissions, especially for units using diesel fuel as they emit a relatively high amount PM.

⁸⁰ South Coast Air Quality Management District. *Best Available Control Technology Guidelines*. Pg. 69, Available at <http://www.aqmd.gov/docs/default-source/bact/bact-guidelines/part-d---bact-guidelines-for-non-major-polluting-facilities.pdf>

⁸¹ San Joaquin Valley Air Pollution Control District. *Gallo Glass Company: Permit N-1662-8-10*

⁸² Manufacturers of Emissions Control Association. *Emissions Control for Stationary Internal Combustion Engines*. Available at http://www.meca.org/resources/MECA_stationary_IC_engine_report_0515_final.pdf.

⁸³ EPA, *Technical Bulletin: Diesel Oxidation Catalyst*. Available at <https://www.epa.gov/sites/production/files/2016-03/documents/420f10031.pdf>.

⁸⁴ EPA, *Technical Bulletin Diesel Particulate Filters*. Available at <https://www.epa.gov/sites/production/files/2016-03/documents/420f10029.pdf>.

Conservation Management Practices: Fugitive dust produced by agricultural operations account for a statistically significant amount of year-round PM2.5 pollution; specifically, 9% of winter PM2.5 and 21% of summer PM2.5. District Rule 4550 requires agricultural operations comprised of 100 acres of contiguous or adjacent land to adopt a Conservation Management Plan (CMP) in order to address fugitive dust emissions. Farm owners must choose a few strategies from a list of practices. For instance, some farmers chose to place a layer of gravel with enough depth to minimize dust generated from vehicle movement while others chose to restrict public access to private roads. Overall, farmers have shown that all practices are feasible and achievable, and each strategy has an emission reduction benefit. To meet the MSM requirements, however, *all farmers* must be required to implement all of the specified dust mitigation practices where feasible rather than being allowed to choose only the least stringent.

Wood Burning Fireplaces and Wood Burning Heaters: In response to EPA's findings that the curtailment thresholds in woodburning Rule 4901 are the most stringent in the nation, we refer you to the comments submitted on behalf of Earthjustice, NPCA, and CCAC on February 20, 2020, attached as Appendix F. These comments clarify our position that EPA's "holistic" approach to analyzing Rule 4901 is inconsistent with the CAA, individual measures within Rule 4901 are less stringent than control measures implemented in other air districts, and the District's "hot spot" strategy is inconsistent with the CAA's MSM requirements.

Underfired Charbroiling: Emissions from commercial cooking are the third-largest source of combustion carbon in the Valley. Emissions are concentrated in urban areas, especially around the cities of Stockton, Modesto, Fresno and Bakersfield.⁸⁵ The PM2.5 Plan seeks to reduce emissions from under-fired charbroilers through a combination of incentives and regulatory measures, however, the District is using a "hot-spot" approach; the measures will only affect cities within Fresno, Madera and Kern Counties, and ignore the cities of Stockton and Modesto. Including these cities and other areas impacted by cooking emissions would expedite attainment of the Valley's federal health standards. Additionally, as stated in comments to EPA on the proposed approval of the District's wood burning fireplace and heaters rule, we believe the hot spot strategy as a whole violates MSM requirements by requiring more stringent measures in individual counties as opposed to within the Valley Air District as a whole.⁸⁶

3. Additional Stationary or Area Sources not Identified by EPA

In addition to the mobile, stationary, and area sources included above, on many occasions throughout the State's SIP rulemaking process advocates identified numerous additional emission reduction opportunities not included in the 2018 Plan.⁸⁷ We believe this proposed rulemaking fails to properly analyze whether all sources and source categories in the Valley meet MSM and BACM/BACT requirements for PM2.5 emission reductions. Instead this proposal focuses its attention only upon rules that the State proposes to update, without properly analyzing opportunities for strengthening existing baseline emission sources or regulating sources yet to be

⁸⁵ California Air Resources Board, *UPDATE ON PM2.5 SIP DEVELOPMENT FOR THE SAN JOAQUIN VALLEY California Air Resources Board Meeting May 25, 2017*, Page 15. Available at <https://www.arb.ca.gov/board/books/2017/052517/17-5-3pres.pdf>.

⁸⁶ See, Appendix F at 9-10.

⁸⁷ See Generally, CVAQ comments on the 2018 SIP attached as Appendices C, D, and E.

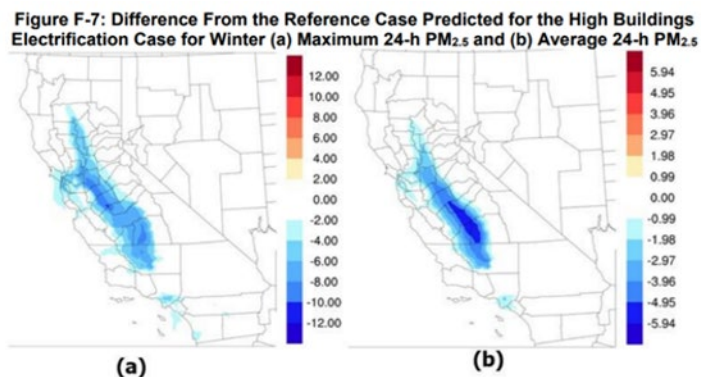
controlled. These additional emission reduction opportunities include, but are not limited to, the following.

Residential Fuel Combustion:

The District failed to seriously examine the potential to further control NOx emissions from Residential Natural Gas Combustion (collectively representing emissions from residential space heating, water heating, cooking, and “other”).⁸⁸

Residential fuel combustion is the largest area-wide source of NOx in the San Joaquin Valley—emitting more NOx emissions than emissions from all light-duty passenger vehicles— and a significant source of direct PM2.5. (Appendix B Emission Inventory Table B-2). Based on 2018 census data, 12,000 new residential units are added in the Air District per year, the majority of which are likely to use gas, increasing the level of NOx emissions with each new gas-operating building.

In determining MSM and BACM for residential fuel combustion for PM2.5, the District should have considered setting a zero-NOx standard for new buildings and for appliance replacements in existing buildings. In effect, this standard, while specific to NOx, would require that new buildings are constructed to operate without natural gas combustion and that all replacements of appliances in existing buildings are with zero-emission space and water heaters, stoves, and dryers, thus simultaneously reducing PM2.5. The air quality benefits of building electrification are evident across California, but studies point to the particularly notable benefits to winter PM2.5 peaks in the San Joaquin Valley.⁸⁹ The figure below demonstrates that high-levels of building electrification yield average 24-hour PM2.5 reductions of -5.9 ug/m3 relative to the reference case.⁹⁰ This reduction corresponds only with electrification of current natural gas building use and does not assume any changes in emissions from other residential fuel sources such as wood burning.



Source: UCI APEP

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⁸⁸ Emission Inventory 2006 Area Source Emission Inventory Methodology 610 – Residential Natural Gas Combustion http://www.valleyair.org/Air_Quality_Plans/EmissionsMethods/MethodForms/Current/ResidentialNG2006.pdf.

⁸⁹ See, e.g. California Energy Commission, The Challenge of Retail-Gas in California’s Low-Carbon Future, (April 2020) “Building electrification is found to improve outdoor air quality and public health outcomes, particularly in the winter, when nitrogen oxide emissions create secondary fine particulate matter (PM 2.5) pollution in the Central Valley” at 5.

⁹⁰ Appendix F: Air Quality Impacts of Future of Natural Gas Scenarios: *The Challenge of Retail Gas in California’s Low-Carbon Future Appendices*, at F-10.

⁹¹ *Id.*

In its BACM assessment of Rule 4902 (emission limits for residential water heaters), the District claims that staff “did not find any additional measures currently available or will be available prior to the 2025 attainment deadline date that could improve the effectivity of this rule.” But the point is contradicted by the District’s own acknowledgment that “the potential opportunity would be to replace natural gas and propane water heaters with units that run on electricity.”⁹² The District admits that “[w]hile the lifetime cost of an electric water heater is higher than that of propane and natural gas, the emissions benefits may make converting to electric water heating a viable control strategy.” Yet they fail to provide any justification for why such a control strategy should not be adopted.

A zero-NOx appliance standard or all-electric new building requirement is both technologically and economically feasible and is the best way to reduce PM2.5 emissions. Notwithstanding the District’s assertion about higher lifetime costs, several studies show that residential building electrification is not only a cost-effective air pollution control, but that it is actually cost-saving. A California-specific study found all-electric new construction yields lifecycle cost savings of \$130-\$540/year over mixed-fuel new homes based on “commonly available technology, without incentives or intervening policies.”⁹³ Furthermore, all-electric requirements are being used in practice to control emissions (as well as to deliver public safety, greenhouse gas mitigation, and greater energy efficiency) by several jurisdictions across California and in other states. As of March 27th, 2020, 30 cities or counties across California have set building codes that require some or all new buildings to either eliminate or reduce their reliance on gas.⁹⁴ The measures range from requirements on only low-rise residential buildings to requirements for all classes of both residential and commercial buildings. Some are limited only to space and water heating while others eliminate the use of any gas combustion. The City of Cupertino’s definition of an all-electric requirement even applies to water heaters for outdoor pools and spas.⁹⁵

Even though the District acknowledges fuel switching to electric water heating is potentially cost-effective, they offer no explanation for rejecting such a control measure for the benefits they would have in reducing PM2.5 emissions. Moreover, in their BACM assessment for *Rule 4905 (Natural Gas-Fired, Fan-Type Central Furnaces)*, they fail to mention the availability of high-efficiency electric heat pumps to deliver cost-effective, zero-emission space heating. While the cost-effectiveness of zero-emission space and water heaters, cook-stoves, and clothes-dryers may be a matter of discussion (we remain confident in their potential to deliver overall cost-savings in most instances), the fact that these control technologies are available and used as controls by other jurisdictions is indisputable. The District failed to seriously evaluate them for one of the largest sources of NOx emissions in the Valley despite them being an economically and technologically feasible measure that is achieved in practice across the US.

Manmade NOx from fertilized fields: Advocates and researchers alike have identified manmade NOx emissions from soil as an unexplored and under-regulated source contributing to PM2.5 pollution

⁹²Appendix C: Stationary Source Control Measure Analyses at C-288

⁹³Energy and Environmental Economics, Residential Building Electrification in California – Consumer Economics, Greenhouse Gases and Grid Impacts (April 2019) At viii.

⁹⁴ Matt Gough, “California’s Cities Lead the Way to a Gas-Free Future” (Mar. 27, 2020) <https://www.sierraclub.org/articles/2020/03/californias-cities-lead-way-gas-free-future>.

⁹⁵ City of Cupertino, City Council Staff Report (Jan 21, 2020) available at <http://cupertino.legistar.com/gateway.aspx?M=F&ID=5ca87afb-cc24-4227-85aa-778a08d835f3.DOCX>.

in the Valley. For instance, researchers working with CARB identified soil NO_x as the likely culprit in the search for a large amounts of unaccounted for NO_x emissions found in central California.⁹⁶ Moreover, recent research found that NO_x levels in the Central Valley could be as much as 20-51% higher than currently included in the State's NO_x budget when accounting for the contribution soil NO_x.⁹⁷

CARB's current position on soil NO_x is that 100% soil NO_x emissions in the Valley are natural and, therefore, no soil NO_x emissions in the Valley are the result of influences such as man-made nitrogen-based fertilizer treatments. We believe this position significantly underestimates the amount of NO_x emissions that could be controlled through better management practices. Even if the overall NO_x budget is not higher than currently estimated, it still seems highly likely that man-made fertilizer treatments account for at least a portion of soil NO_x emissions in the Valley. Yet, there are no proposed control measures for soil NO_x in the State's plan.

To proceed with a plan that writes off 100% of soil NO_x emissions as natural abdicates EPA and the State's duty to reduce all sources of PM_{2.5} using the most stringent measures available. Before approval of the extension request, EPA should require the State to research the levels of manmade NO_x pollution coming from soils in the Valley and develop control measures to reduce NO_x emissions from sources such as fertilizer treatments.

Ammonia: Because of its contribution in the formation of ammonium nitrate, ammonia is a significant contributor to PM_{2.5} pollution in the Valley. Yet, EPA is proposing to approve of the State's precursor analysis that leaves this source completely unregulated. As stated in 40 CFR 51.1006(a)(1), "A comprehensive precursor demonstration must show that emissions of a particular precursor from all existing stationary, area, and mobile sources located in the nonattainment area *do not contribute significantly to PM_{2.5} levels that exceed the standard in the area*" (emphasis added). The State's precursor analysis tries to get around this significant contributor requirement by stating that ammonia is NO_x limited in the Valley, and thus controlling it is not cost-effective when compared with controls for NO_x and direct PM_{2.5} emissions. We disagree with this assessment on several fronts.

First, A 30% reduction to ammonia has been shown by the State to have noticeable effects on reducing overall PM_{2.5} levels, (by as much as 0.9 to 3.3 µg/m³ for the 2013 baseline year).⁹⁸ Given the current lack of incentive funding and the increasingly costly price tag and diminishing returns associated with achieving additional NO_x reductions from categories such as mobile sources, we believe significant ammonia reductions are indeed necessary to meet the aggregate reductions committed to by the State. Next, as noted above, if soil NO_x levels in San Joaquin Valley are in fact significantly undercounted, then the calculation for whether ammonia is truly NO_x limited would change.⁹⁹ For instance, if the higher end estimates from the research are correct and the State's NO_x budget is truly as much as 51% higher than currently thought, then the cost to benefit ratio for

⁹⁶ Michael Kleeman, et. al., *CARB Presentation: Particulate Nitrate Modeling in the San Joaquin Valley*, June 26, 2019 at 19:00-25:15. Available at <https://www.youtube.com/watch?v=VGNH46rlzsc&feature=youtu.be>.

⁹⁷ Maya Almaraz, et. al. *Agriculture is a major source of NO_x pollution in California*, *Science Advances* Vol. 4, No. 1 (2018). Available at, <https://advances.sciencemag.org/content/4/1/eaao3477>.

⁹⁸ SJVAPCD, Precursor Demonstrations for Ammonia, SO_x, and ROG at 7. Available at www.valleyair.org/pmplans/documents/2018/pm-plan/G.pdf. See also, 85 Fed. Reg. 17392.

⁹⁹ Maya Almaraz, et. al. *Agriculture is a major source of NO_x pollution in California*, *Science Advances* Vol. 4, No. 1 (2018). Available at, <https://advances.sciencemag.org/content/4/1/eaao3477>.

controlling ammonia would be completely different when considering the elevated levels of NOx available to form ammonium nitrate.

While we recognize that more research needs to be done to fully understand the contributions of ammonia and soil NOx to PM2.5 formation, sufficient data substantiates the contribution of ammonia to PM2.5 formation in the Valley. Likewise, with few other options available to make up the aggregate emission reductions committed to by the State, we believe ammonia control measures are necessary to achieve MSM requirements.

4. Current District Rules Do Not Satisfy MSM and BACM/BACT Requirements Because of Loopholes allowing for Noncompliance.

While numerous rules adopted by the SJVAPCD may appear on paper as meeting MSM or BACM/BACT requirements, numerous loopholes in how the District implements their rules for a number of sources allow polluters to avoid compliance, thus, affecting the actual stringency of such rules when compared to what is required or what has been achieved elsewhere. For instance, the District continues to issue permits for new or expanded operations of polluting facilities utilizing Emission Reduction Credits (ERCs) for criteria air pollutants, despite determinations from EPA and CARB that some of these credits are invalid or grossly overestimated.¹⁰⁰ CVAQ and other advocates have raised serious concerns about the overall validity of the credits contained in the ERC banks, as well as concerns about the lack of transparency in how the equivalency demonstration is determined. In response to CVAQ's concerns, CARB's enforcement division is currently reviewing the program. While the review is underway, inaccuracies and loopholes in these ERC banks have serious implications for the San Joaquin Valley air basin's ability to reach attainment. Oil and gas production companies located in Kern County are the largest stationary sources of PM2.5, nitrogen oxides (NOx), and carbon dioxide (CO2) in the San Joaquin Valley.¹⁰¹ These companies also own the majority of Emission Reduction Credits.

The oil industry enjoys further exemptions in Rules 4623 (Storage of Organic Liquids) and 2020 (Authority to Construct or Permit to Operate Exemptions), for operators that produce "an average of less than 6000 barrels per day of crude oil from all operations within the county."¹⁰² According to data from the State Division of Oil, Gas, and Geothermal Resources (DOGGR), recently renamed California Geologic Energy Management (CalGEM), there are currently about 40,000 active oil and gas wells in the counties making up the APCD.¹⁰³ We are unaware of any independent monitoring and verification to attain the classification of being a small producer other than self-reporting by the regulated entities themselves. Furthermore, emissions from these sources are quantified using emissions factors rather than from on-site data collection. These data limitations make it virtually impossible to determine any trends or averages in emissions from tanks and, in turn, the pollution impact of the tanks of small producers exempt from Rule 4623. The continued exemptions in District rules for emissions from operators using tanks with limited throughput is a missed opportunity for pollution reduction. In addition, the exemptions effectively mean that there is no enforceable mechanism to reduce pollution from an entire class of emission sources.

¹⁰⁰ Earthworks, Undeserved Credit: <https://earthworks.org/cms/assets/uploads/2018/11/CA-ERC-Report-Earthworks-10-31-18.pdf>.

¹⁰¹ See, Appendix D at 4-5.

¹⁰² See, <https://www.valleyair.org/rules/currentrules/r4623.pdf>. See also, Section 6.6.12 of San Joaquin Valley Air District Rule 2020, <http://www.valleyair.org/rules/currentrules/R2020Rule.pdf>.

¹⁰³ See, Well Search database at <https://secure.conservation.ca.gov/WellSearch>. Counties include Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare, and part of Kern).

C. State Fails to Show Attainment as Expediently as Practical.

CAA obligations governing both Serious area SIPs and attainment deadline extensions require a demonstration that the Plan will reach attainment “as expeditiously as practicable.”¹⁰⁴ For the reasons stated above, the State has failed to demonstrate expeditious attainment because control measures for various sources that are less stringent than what is required by MSM and BACM/BACT. Furthermore, as specified by EPA in this proposed rulemaking, to accomplish expeditious attainment, the State must implement MSM “no later than the beginning of the year containing the attainment date identified by the State in its extension request, i.e. in this case, by January 1, 2024”¹⁰⁵ When looking at the 2018 PM2.5 plan, it becomes clear that many of CARB and SJVAPCD’s measures will not be implemented until after January 1, 2024, and thus should not be counted towards attainment with the 2006 SIP or extension request. Furthermore, as stated in the above section on RFPs and quantitative milestones, several of the District’s rules outlined in the 2018 plan and included in this proposal (specifically District Rules 4311, 4306, and 4320) set implementation dates in 2023. However, scoping presentations for those rules have now listed implementation dates for those measures as beginning in 2024.

V. EPA’s Limited Comment Period Has Significantly Limited Public Engagement During the COVID-19 National Emergency.

As detailed in separate coalition letters to EPA authored by NPCA and CVAQ, we believe that EPA’s limited 30-day comment period for this proposal has drastically diminished the ability of the public to engage with this rulemaking process and is contrary to public participation requirements at the heart of the CAA and Administrative Procedures Act.¹⁰⁶ In the midst of one of the worst public health crises in American history—one that disproportionately impacts those already forced to breathe unhealthy air—it is reckless for EPA to push through such a poorly supported proposal without further opportunities for public engagement. We again ask for additional time to provide public comments on this proposal so we have time to engage more with affected members of the public and include addition details about how the 2018 plan can be improved.

VI. Conclusion

As organizations representing residents of the dirtiest air basin in the nation for PM2.5 air pollution, we cannot afford 5 more years of delay in achieving clean air.¹⁰⁷ We need a plan that will guarantee clean air for San Joaquin Valley communities and nearby public lands immediately—not a plan that offers assurances that the State is incapable of fulfilling.

For the above stated reasons, we request that EPA use its authority to require CARB and the Valley Air District to remedy the significant deficiencies we have identified prior to granting approval of the 2006 SIP requirements and 5-year extension request. If these deficiencies cannot be remedied in time, we advise EPA to deny the 5-year extension and submit a finding that the San Joaquin Valley has failed to attain the 2006 PM2.5 standard for Serious areas.

¹⁰⁴ CAA § 188(c)(2) & 189(b)(1)A). *See also*, CAA § 188(e).

¹⁰⁵ 85 Fed. Reg. at 17397.

¹⁰⁶ *See generally*, Appendix G.

¹⁰⁷ *See*, American Lung Association, 2020 State of the Air Report: Most Polluted Cities. *Available at*, <http://www.stateoftheair.org/city-rankings/most-polluted-cities.html>.

Sincerely,

Mark Rose
National Parks Conservation Association

Paul Cort
Earthjustice

Catherine Garoupa White
Central Valley Air Quality Coalition

Bill Magavern
Coalition for Clean Air

Nayamin Martinez
Central California Environmental Justice Network

Destiny Rodriguez
The Climate Center

Kevin Hamilton
Central California Asthma Collaborative

Appendix A

Letters to Members of the California Legislature
Requesting Additional Clean Air Incentive Funds for
the San Joaquin Valley



April 30th, 2019

The Honorable Bob Wieckowski
Chair, Senate Committee on Budget and Fiscal Review
Subcommittee 2
State Capitol, Room 5019
Sacramento, CA 95814

The Honorable Richard Bloom
Chair, Assembly Budget
Subcommittee 3
State Capitol, Room 6026
Sacramento, CA 95814

RE: Subject: Request for Funding in 2019/20 Budget to Support Critical Air Quality Improvement Efforts in the San Joaquin Valley

Dear Senator Wieckowski and Assembly Member Bloom,

On behalf of the National Parks Conservation Association (NPCA), The Central California Asthma Collaborative (CCAC), and the Central California Environmental Justice Network (CCEJN), we write to respectfully request a reinstatement of \$100 million in funding dedicated to the San Joaquin Valley for the *Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program*. We also ask that you support a more equitable distribution of FARMER funds by prioritizing funding to socially disadvantaged farmers. NPCA, CCAC, and CCEJN work tirelessly to improve air quality in the San Joaquin Valley and surrounding areas in an effort to enhance overall public health, increase local quality of life, and secure the environmental well-being of our communities and natural resources. As a key component of multiple California state clean air plans, a well-funded FARMER program is crucial to help our Valley reach attainment with federal health standards for fine particle pollution (PM_{2.5}) and ozone, as well as necessary for state efforts to reduce greenhouse-gas emissions from the agriculture sector.

The San Joaquin Valley produces a large proportion of the nation's table fruits, nuts and vegetables, but is also the most polluted air basin in nation for PM_{2.5} air pollution, with 24-hour and annual ambient air concentrations frequently in excess of federal health standards.¹ PM_{2.5} pollution causes a range of significant, adverse health effects. High ambient levels can induce asthma attacks, heart attacks, stroke and premature death, and contribute to the development of chronic heart and lung diseases, and increased susceptibility to asthma, allergies and

¹ American Lung Association, <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/most-polluted-cities.html>.

diabetes.²³⁴⁵⁶ In Kern County one out of every 37 people died of a chronic respiratory disease between 2013 and 2016 — a rate 12 times higher than the rest of the state.⁷ Poor air quality also leads to missed school and work days, keeps residents indoors, and restricts outdoors activities. Air pollution originating in the Valley also affects neighboring Sierra Nevada ecosystems, affecting visitor health, visibility and biodiversity within treasured natural areas like Yosemite, Sequoia and Kings Canyon National Parks. Ozone exposure significantly impacts the health of Sierra Nevada forests making them more vulnerable to disease and die-offs long before the most recent drought.⁸ In fact, Sequoia National Park registers more days of ozone violations per year than the city of Los Angeles.⁹

Over the years, our organizations have worked diligently with the California Air Resources Board (CARB), the San Joaquin Valley Air Pollution Control District (Valley Air District) and industry stakeholders to reduce regional air pollution. Our collective efforts recently culminated in CARB's approval of a State Implementation Plan (SIP) outlining how the Valley will meet federal PM2.5 standards dating back to 1997, 2006, and 2012. If the incentives outlined in this PM2.5 SIP are fully funded, such as the tractor turnover program under FARMER, CARB and the Valley Air District expects the Valley to come into attainment of these federal health-based standards within the next 5-6 years.

Unfortunately, the Governor's proposed 2019-2020 budget seeks to drastically reduce funding for clean air programs like FARMER as compared to the funding secured in previous years. A funding cut along these lines would significantly set back efforts to reduce regional air pollution and meet attainment deadlines for multiple federal PM2.5 and ozone standards. Therefore, we respectfully request that the funding for the FARMER program be increased to at least \$100 million for the San Joaquin Valley; which is consistent with the last two budgets and with what CARB has identified as a necessary resource to help achieve the Valley's air quality targets as outlined in their 2019 PM2.5 SIP.

In addition to an increase in funding, we ask that the California State Legislatures use their authority to ensure a more equitable distribution of funds allocated under the FARMER program. At present, regional funding in the San Joaquin Valley is distributed on a first-come, first-served basis. This practice inherently favors large agribusinesses that have the knowledge and resources to quickly apply for the funding. One option to ensure equity would be to set aside a certain percentage of funding for low-income, socially disadvantaged, and/or farmers of color. This goal of equity would better serve disadvantaged and small-scale farmers who often do the greatest

² American Lung Association, <https://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/particle-pollution.html#cando>.

³ American Heart Association, <https://www.ahajournals.org/doi/full/10.1161/CIR.0b013e3181d8e1>.

⁴ California State University, Fresno, <http://www.csufresno.edu/chhs/cvhpi/documents/aqr-web.pdf>.

⁵ Journal of Allergy and Clinical Immunology, [https://www.jacionline.org/article/S0091-6749\(10\)01193-0/abstract](https://www.jacionline.org/article/S0091-6749(10)01193-0/abstract).

⁶ American Diabetes Association, <http://care.diabetesjournals.org/content/33/10/2196>.

⁷ California Department of Public Health, United States Environmental Protection Agency and United States Census Bureau's American FactFinder, <https://www.ehn.org/chronic-respiratory-disease-california-2621765230.html?rebelltitem=3#rebelltitem3>.

⁸ Extent of Ozone Injury to Trees in the Western United States, https://www.fs.fed.us/psw/publications/documents/psw_gtr155/psw_gtr155_miller.pdf.

⁹ Science Advances, <https://advances.sciencemag.org/content/4/7/eaat1613>.

work in building ecologically resilient farmscapes near and within disadvantaged communities. It is important to note, ensuring funds go to disadvantaged census tracts does not, in reality, ensure funding is going into the hands of disadvantaged farmers.

Much work remains in order to ensure we have clean air in the San Joaquin Valley, but well-funded and equitably distributed incentive programs like FARMER will help us to bridge the gap. We look forward to working with legislative leaders and Budget Committee chairs to help bring equitable funding to clean air programs.

Sincerely,

Mark Rose,
Sierra Nevada Field Representative
National Parks Conservation Association

Kevin Hamilton,
Executive Director
Central California Asthma Collaborative

Nayamin Martinez
Executive Director
Central California Environmental Justice Network

CC: The Honorable Members of the Senate Committee on Budget and Fiscal Review
Subcommittee 2
The Honorable Members of the Assembly Budget Subcommittee 3
The Honorable Susan Eggman
The Honorable Melissa Hurtado
The Honorable Rudy Salas
The Honorable Kurt Karperos, California Air Resource Board
The Honorable Samir Sheik, San Joaquin Valley Air Pollution Control District

November 15, 2019

Governor Gavin Newsom
1303 10th Street, Suite 1173
Sacramento, CA 95814

Subject: Request for Funding in 2020/21 Budget to Support Critical Air Quality Improvement Efforts in the San Joaquin Valley and throughout the State

Dear Governor Newsom:

On behalf of the San Joaquin Valley Air Pollution Control District (Valley Air District), I write to urge for the inclusion of increased funding in the 2020/21 State Budget to support efforts to improve air quality and public health for communities in the San Joaquin Valley. The Valley Air District is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective and entrepreneurial air quality management strategies.

The San Joaquin Valley faces one of the most significant air quality challenges in the country, and is currently in nonattainment with the latest federal ozone and PM2.5 standards. The San Joaquin Valley is also home to a large number of the state's disadvantaged communities, including 20 of the 30 most disadvantaged communities in California. Two of those communities were selected as first year communities under the AB 617 Community Air Protection Program.

The San Joaquin Valley has made significant clean air investments and progress through the implementation of multiple clean air attainment plans and stringent regulations. However, in addition to stringent regulatory measures, funding is necessary to further reduce air pollution and expedite public health benefits and attainment of the federal standards through incentive-based measures, particularly with respect to mobile sources that now make up over 85% of the Valley's remaining air pollution. The Valley's recently adopted PM2.5 plan includes a wide range of aggressive regulatory and incentive-based measures to be implemented by both the District and California Air Resources Board (CARB), including several incentive-based mobile source control measure commitments by CARB to significantly accelerate the deployment of new clean vehicles, equipment, and technologies across a variety of sectors. Implementing these new measures will require \$5 billion of new incentive funding investment between now and the federal attainment deadline of 2024.

Samir Sheikh

Executive Director/Air Pollution Control Officer

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The San Joaquin Valley has been a leader and pioneer in the utilization of incentive grants to achieve voluntary emissions reductions from mobile sources. These grants have helped thousands of agricultural, trucking, and other businesses in the San Joaquin Valley acquire new, low-emitting trucks, tractors, and other equipment, spurring major local public and private investment in new equipment that would otherwise not be occurring. In addition to providing for significant air quality and public health benefits, these programs also provide for substantial investment and economic benefits across the agricultural, manufacturing, food processing, logistics, and other sectors, leading to job growth and improved quality of life for the Valley's disadvantaged communities.

Recent state budgets have included significant funding, through Greenhouse Gas Reduction Funds and other funding, for emission reductions from mobile sources to benefit communities throughout the Valley and state. In order to fulfill the State's commitments in the Valley's PM2.5 Plan, significant funding is required, particularly over the next five years. For the 2020/21 budget year, the District has the following requests:

- **Allocate \$175 million in funding to the "Funding Agricultural Replacement Measures for Emission Reductions Program" (FARMER).** These funds will assist in achieving the state's commitment to reduce emissions from heavy-duty agricultural off-road equipment in the San Joaquin Valley (12,000 tractors by 2025) and provide for significant air quality improvements throughout the Valley and state.
- **Allocate \$250 million in funding statewide for incentives in Community Air Protection Program.** These funds will assist in achieving emissions reductions in the Valley's and state's disadvantaged communities and in meeting the state's commitment to reduce emissions from heavy duty diesel trucks and other diesel fleets and provide for significant air quality improvements throughout the Valley and state.
- **Provide \$500 million in bond measure funding to mitigate the air quality impacts associated with wildfires in climate resilience bond measure.** There have been a number of proposals in the legislature to place a bond measure on the November, 2020 ballot to address issues that have been exacerbated by climate change. Five of the largest wildfires in the state's history have occurred in the last 10 years with the two largest occurring since 2017. These fires have significantly impacted air quality and public health for a significant portion of the state's population. Any bond measure dealing with these issues should include significant funding to mitigate these impacts through funding made available to CARB and air districts for projects to reduce greenhouse gases, toxics, and criteria pollutant emissions in communities impacted by smoke and other harmful air pollutants generated from wildfires.

- **AB 617 Community Air Protection Program Local Air District Implementation Funding.** As you know, air districts have a central role in implementing this ambitious and important new program that will provide significant public health benefits. Since the bill was signed into law, we have been working aggressively to make the program a success. AB 617 requires an annual selection of communities for additional monitoring, community outreach, and community focused emission reduction planning in order to measurably improve public health. AB 617 envisions a long-term focus on community health that will require dedicated equipment and staffing over many years, with new focus communities being added every year, requiring additional resources. In order to achieve success, adequate ongoing state funding for air district implementation is critical.

Thank you for your consideration of these requests. I look forward to working closely with the Legislature to ensure that these vital air quality and public health issues are adequately addressed in the Budget.

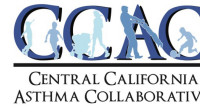
Sincerely,



Samir Sheikh
Executive Director/Air Pollution Control Officer

Cc: Senate Pro Tem Toni Atkins
Assembly Speaker Anthony Rendon
Jared Blumenfeld, Secretary for Environmental Protection
Mary Nichols, Chair, California Air Resources Board
Christine Hironaka, Deputy Cabinet Secretary, Office of Governor Newsom

Appendix B
CVAQ Coalition Scoping Comments on Proposed
Updates to District Rules 4306, 4320, 4702, 4692,
and 4311



January 31, 2020

Mr. Samir Sheik
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, California 93728

CC: Avi Anderson, Ross Badertscher, Kevin M. Wing, and Crystal Yunker

Dear Mr. Sheik and District Staff,

On behalf of the Central Valley Air Quality Coalition (CVAQ), Center on Race, Poverty, and the Environment (CRPE), National Parks Conservation Association (NPCA), Association of Irrigated Residents (AIR), Central California Environmental Justice Network (CCEJN), Mi Familia Vota, Valley Improvement Projects (VIP), Central California Asthma Collaborative (CCAC), and Patterson Progressive Alliance please accept these comments regarding potential amendments to San Joaquin Valley Air Pollution Control District's (SJVAPCD or District) rules regarding PM 2.5 emission reduction measures in the San Joaquin Valley (Valley). This letter serves as our response to the series of public scoping workshops held by the District between October and December 2019 on District Rules 4306, 4320, 4702, 4692, and 4311.

Currently, the Valley air basin is not in attainment for the 1997, 2006, and 2012 federal PM 2.5 standards. Furthermore, there have been growing shortfalls in the incentive funds identified as a key part of the state's 2019 PM2.5 State Implementation Plan (SIP). Thus, it is now more important than ever for the District to quickly move ahead with achieving significant emissions reductions through new and improved regulations. We firmly believe adoption and enforcement of strong regulatory measures will provide the largest emissions reduction opportunities for the Valley and are crucial for the District's attainment strategy to be both successful and timely.

In addition to our specific comments on the individual rules below, we believe the following should be reflected in all the rules set to be amended:

- **Eliminate all alternatives to direct compliance with standards.** Direct compliance will play a key role for the Valley to meet the 1997, 2006, and 2012 federal PM 2.5 standards. Facilities contributing to non-attainment should not be granted the opportunity to substitute compliance through fees or other alternatives. We believe that the best way to ensure Most Stringent Measure(MSM), Best Available Retrofit Control Technology (BARCT) and Best Available Control Technology(BACT) requirements are met is to require that every unit found throughout the various facilities in the Valley be subject to direct compliance.
- **Explore and/or pursue more advanced emissions control technologies and other measures.** New and improved emissions control technology and emission reduction practices, including non-combustion alternatives are quickly becoming more widely available and more economically and technically feasible, with electrification being the most notable. Electrification options for sources becoming more widely used in a variety of industries. General Electric Power conversions, an electrical engineering company under General Electric apply “the science and systems of power conversion to help drive the electric transformation of the world's energy infrastructure”¹. GE is working throughout various industries to transition into cleaner alternatives. We encourage the District to continue exploring new control technologies throughout this rulemaking process in order to comply with the Clean Air Act’s (CAA) regulations requiring adherence with Most Stringent Measures (MSM) and Best Available Control Technology (BACT) standards. As such, we hope that the District will look beyond what has been employed in the Valley towards newer technologies employed nationally and internationally. Suggestions of technologies warranting further examination detailed in this letter are not endorsements of those technologies or of particular companies.
- **Explore direct PM 2.5 emission controls.** Through an internal review of the rules being proposed for amendments, we have found no evidence that direct PM 2.5 controls will be mandated for any source within these proposed District rules. In order to achieve the enormous amount of reductions still needed for the San Joaquin Valley to come into attainment with the various PM 2.5 standards by the deadlines, it is essential that emission reduction strategies be applied to all pollutants, not just Nitrogen Oxides (NOx).

¹ GE Power Conversions. <https://www.gepowerconversion.com/>

Where feasible, we strongly encourage the District to pursue direct PM 2.5 reduction measures throughout all District rules.

- **Strengthen regulations overall.** With the incentive funding portion of the PM2.5 plan likely to come up significantly short over the life of this plan, it is now more important than ever to develop the strongest possible regulatory measures and rigorously enforce them. Moreover, we strongly suggest that the District continue to look for additional avenues to reduce emissions through regulatory measures beyond what was originally proposed in the 2018 PM2.5 plan.
- **Include health, environmental, and economic benefits in Socioeconomic Impact Analyses.** As part of this rulemaking process, SJVAPCD will contract with third parties to conduct a Socioeconomic Impact Analysis to analyze the impact of these rules to local economies. While this can be a useful exercise from an economic standpoint, only looking at economic costs of these proposed regulations, without also including factors like the health and environmental benefits of stricter rules, tells a one-sided story and leaves out important justifications the public should be aware of. We urge SJVAPCD to ensure local health, environmental, and economic benefits are included in accompanying socioeconomic studies, similar to how CARB has included this data in similar analyses at the state level as seen with the Transport Refrigeration Units (TRU) emissions inventory and preliminary health analysis workshops.
- **Ensure action and implementation at the earliest possible dates.** As seen in the chart below, the District's 2018 PM2.5 plan clearly lays out specific dates for the implementation of several rules currently being considered; however, several of the implementation dates proposed as part of this scoping process occur later than first proposed in the plan.

Table 4-4 Proposed Regulatory Measures

Regulatory Measures	Public Process Begins	Action Date	Implementation Begins
Rule 4311 Flares	2018	2020	2023
Rule 4306 Boilers, Steam Generators, and Process Heaters – Phase 3			
Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr	2019	2020	2023
Rule 4702 Internal Combustion Engines	2019	2020	2024
Rule 4354 Glass Melting Furnaces	2020	2021	2023
Rule 4352 Solid Fuel-Fired Boilers, Steam Generators And Process Heaters	2020	2021	2023
Rule 4550 Conservation Management Practices	2021	2022	2024
Rule 4692 Commercial Under-fired Charbroiling (Hot-spot Strategy)	2019	2020	2024
Rule 4901 Wood Burning Fireplaces and Wood Burning Heaters (Hot-spot Strategy)	2019	2019	2019

2

For instance, the implementation of regulatory measures related to Rules 4311, 4306, and 4320 are listed in the 2018 PM2.5 plan as beginning in 2023, whereas the scoping presentations for those three rules list implementation as now beginning in 2024. We strongly urge the District to follow the path set out in the original PM2.5 plan to ensure that implementation of these rules occur at the earliest possible date. We believe this is necessary to achieve attainment with federal standards by the 2024/2025 attainment deadlines. While we understand that these rules are technology forcing and industries will need time to comply, because this PM2.5 plan is already several years late, industry has already had time to anticipate rule changes to comply with the Clean Air Act’s MSM and BACT requirements.

- **Explore strengthening other rules beyond those discussed within the PM 2.5 Plan.** Targeting specific rules is not enough to meet the enormous amount of reductions needed to achieve attainment of the various federal PM 2.5 standards. In order to account for potential issues preventing rule amendments, the district should consider expanding the rules proposed for amendments to ensure emissions reductions are able to be obtained by the 2024/2025 attainment deadlines.
- **Ensure existing and new rules are applicable to all “small oil producers.”** Targeting large producers in the Valley is not enough to obtain the reductions necessary in the oil and gas sector. We encourage the District to implement the most stringent rules and regulations on all oil producers throughout the Valley.

Additionally, CVAQ and partners offer the following comments for District rule amendments:

² SJVAPCD 2018 PM2.5 plan at 4-12

District Rule 4306 (Boilers, Steam Generators, and Process Heaters – Phase 3) and Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr)

I. Strategy

- A. Overall strategy. We strongly support the District's efforts to reduce emissions from Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr. We encourage the District to pursue the maximum achievable emission limitation levels proposed in the scoping presentation for each source, and do so by the 2023 implementation date specified in the Districts 2018 PM2.5 plan.

- B. Eliminate annual emissions fee until attainment is achieved. By allowing owners or operators the option of paying into an annual emissions fee in lieu of complying with the limits, SJVAPCD provides a loophole that results in less stringent measures than what is seen in other air districts. For instance, the South Coast Air Quality Management District's rule 1146 for boilers, steam generators, and process heaters equal or greater than 5 MMBtu/hr requires full compliance with limits without the option of paying an emissions fee instead.³ In order for this rule to meet the MSM standard required under the CAA, we urge the District to eliminate annual emission fees as an alternative to full compliance with the standards proposed.

- C. The District should move forward with requiring direct PM 2.5 limits for alternative fuels. Despite the relatively low emissions inventory for units that are allowed to combust quality natural gas, boilers should be held to the same PM 2.5 limitations that are imposed on units fired on digester gas or produced gas.

- D. Direct PM 2.5 limits and associated MSM and BACT controls need to be explored and implemented. Taken together, boilers and steam generators emit tons of PM2.5 in the oil fields with oil and gas facilities in the Valley, emitting 905.88 tons of PM 2.5 a year.⁴ Rule 4320 only refers to PM 10. Direct PM 2.5 limitations are needed as this pollutant leads to a variety of serious health complications, such as asthma, heart and lung disease,

³ SCAQMD. *Rule 1146 Staff Report*.

<http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/dsr-1146-final.pdf?sfvrsn=6>

⁴ California Air Resources Board. *Facility Search Engine (CEIDERS)*
<https://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php?dd=>

cancer, and even death.⁵ In order to meet federal PM 2.5 requirements, MSM/BACT controls must be required. Electrostatic Precipitators (ESPs) and Scrubbers should be implemented throughout all crude oil production facilities as several others are required to implement this technology by their permits. Additionally, various types of baghouses, fabric bags where dry particles are captured on the fabric surface, should be further explored to determine viability.

- E. Stronger PM2.5 Requirements. Section 5.4 of Rule 4320 PM Control Requirements states “an operator shall comply with **one** of the following requirements...” The District should consider increased requirements that include compliance with all of the following:
- a. Fire units exclusively on natural gas, commercial propane, butane or liquefied petroleum, or a combination of such gases;
 - b. Limit sulfur content to no more than 5 grains of sulfur per 100 cubic ft;
 - c. Install and properly operate an emissions control system that reduces SO₂ emissions by at least 95% by weight or limit SO₂ to less than or equal to 9 parts per million by volume (ppmv)
- refinery units shall be in compliance with applicable requirements no later than 07/01/2013.

II. Technology

Additionally, there are several significant opportunities for further analysis:⁶

- A. Determine the widespread viability of Clearsign Duplex Burners. Clearsign Duplex Burners employ a ceramic material for the fuel to burn downstream from the actual burner. This is a new technology that has been installed or is under evaluation at two refineries and one oilfield production facility in the Valley. They have indicated the potential to achieve NO_x emissions less than 5 ppmv @ 3% CO₂. This technology should be strongly considered for additional emissions reductions opportunities as it has not been found to be infeasible and demonstrates great potential from emissions reductions. The viability of deploying this equipment must be fully examined and considered throughout the scoping process.
- B. Determine the viability of retrofitting 5 to 20 MMBtu/hr units as well as units greater than 20 MMBtu/hr with Ultra low NO_x burners. For 5 to 20 MMBtu/hr units, 6ppmv

⁵ American Lung Association. *Particle Pollution*.

<https://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/particle-pollution.html>

⁶ SJVAPCD 2018 PM 2.5 Plan: Appendix C Stationary Source Control Measure Analysis.

<https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf> P 81

NOx @ 3% CO2 are expected to be achieved while 5 ppmv @ 3% O2 can be achieved by retrofitting units greater than 20 MMBtu/hr. In order to meet the lower emissions limitations for various units, as proposed by the District, retrofitting units will play an important role in achieving those new limitations.

- C. Begin implementing the use of oilfield steam generators that use combined ultra-low NOx burner and flue gas recirculation. The District has stated that some units are currently operating with this technology and have demonstrated, through source testing, NOx emissions levels as low as 3 ppmv. An AIP designation must be given and once AIP is achieved, this control technology should be implemented immediately as the MSM for this source category.

District Rule 4702 (Internal Combustion Engines)

I. Strategy

- A. Overall Strategy. We support the District's proposal to lower NOx emissions for both agricultural and non-agricultural IC engines. We further urge the District to lower non-agricultural limits to 5ppmv at the most, and to ensure a regulatory backstop for the turnover of agricultural engines by 2024 at the latest.
- B. Require electrification at feasible locations. We fully support more rapid electrification of agricultural engines, including those not used for pumping water such as dairy feed mixers, which will have the added benefit of farmers installing more solar panels for their electrical needs.
- C. BACT exceptions should not be given. Section 4.4 of current Rule 4702 states "For existing facilities, a replacement unit installed for the sole purpose of complying with the requirements of this rule shall be considered to be an emission control technique and shall be **exempt from the Best Available Control Technology (BACT) and offsets requirements of District Rule 2201** (New and Modified Stationary Source Review Rule) provided that all other requirements of Rule 2201 are met." Allowing this exemption undermines MSM requirements and therefore, should not be allowed.
- D. Fees should not replace the emissions reductions that can be achieved through complying with emissions limit requirements. Section 5.2.2.2 of Rule 4702 states "in lieu of complying with the NOx emissions limit requirements... an operator may pay an annual fee to the District..." Alternatives for direct compliance to emissions limits should not be

allowed. To ensure attainment, all emissions limits should be enforced to all applicable units for all emissions limits.

II. Technology

- A. Analyze viability of Diesel Oxidation Catalysts (DOCs) and Wall-Flow Diesel Particulate Filters (DPFs). For particulate emissions control of stationary IC engines DOCs convert the soluble organic fraction (SOF) of diesel particulate matter (PM) into carbon dioxide and water. “DOCs can also reduce smoke emissions and virtually eliminate the characteristic odor associated with diesel exhaust by oxidizing the aldehyde and acrolein emissions”. DOCs are relatively maintenance free, only requiring periodic inspection by the owner. Additionally, DOCs have been shown to be effective with units using biodiesel and emulsified diesel fuels, ethanol/diesel blends, and other diesel alternatives. Wall-flow DPFs remove particulate matter in diesel exhaust by filtering the exhaust from the engine. “Wall-flow filters have the highest level of filtration efficiency (>90%) for particulate matter (including ultrafine particles) and can reduce black carbon by as much as 99%”. These filter systems have not demonstrated any additional wear or effect on engine maintenance.⁷ For units that are not able to immediately become electric, DOCs and/or DPFs should be required in order to reduce particulate matter emissions, especially for units using diesel fuel as they emit a relatively high amount PM.
- B. Consider Lean NOx Catalyst. A new technology that has recently emerged that controls NOx emissions by injecting a small amount of hydrocarbon reductant into the exhaust upstream of a catalyst.⁸ This technology should also be implemented if found viable for units that are not able to become electric immediately.

District Rule 4692 (Commercial Charbroiling)

I. Strategy

- A. Overall Strategy. The PM 2.5 emissions inventory within the Stationary Source Control Measure Analysis for commercial charbroiling is projected to steadily increase as population grows in the Valley. Furthermore, the District states that “underfired charbroiling is responsible for approximately 89% of the PM 2.5 emissions for this

⁷ Manufacturers of Emissions Control Association. *Emissions Control for Stationary Internal Combustion Engines*. P. 9-13 http://www.meca.org/resources/MECA_stationary_IC_engine_report_0515_final.pdf

⁸ Manufacturers of Emissions Control Association. *Emissions Control for Stationary Internal Combustion Engines*. P.8 http://www.meca.org/resources/MECA_stationary_IC_engine_report_0515_final.pdf

source category, or 2.75 tons per day (tpd).” Given this trend, **this source category should receive priority.**

- A. Develop distinction between the large and small, chain and independent charbroilers. In order to truly understand the capacity of charbroiling operations, distinction going beyond pounds of meat cooked should be identified. Once this distinction is made, the District should move forward with implementing emissions control technologies to facilities with the greatest capacity.
- B. Create regulatory backstop. As has been proven with other aspects of the state’s PM2.5 plan, solely relying on unsecured incentive funds without a regulatory backstop to ensure compliance is inadequate. Thus, we strongly support the District’s efforts to investigate this avenue and ask that a 2024 regulatory backstop be implemented as part of the updated rule for large restaurants in all urban areas of the Valley. Moreover, we believe that pollution control devices should be considered MSM/BACT and thus mandated Valley wide, not just at restaurants in the hot-spot areas.

II. Technology

- C. Assess Retrofit Implementation. EPA’s Final Report on Retrofit Air Pollution Control Filters for Restaurant Underfired Charbroilers conducted between May 1, 2010 through April 30, 2012 states that “ a retrofit implementation approach to new emissions control technology for fine particle (PM 2.5 Pollution) air quality compliance is required for these charbroilers”⁹ and concluded that “Positive project results provide technological proof-of-concept to restaurateurs and environmental professionals that device retrofit and subsequent commercialization has significant upside potential with reduced risks.” Given the success of this project the District should assess the feasibility of retrofit implementation for all under fired charbroilers.
- D. Determine AIP Status for Electrostatic Precipitators (ESPs) and Wet Scrubbers. Despite the potential issues identified by the District for these emissions control devices, AIP status determination for these devices should be explored. ESPs charge the pollution particles that are then attracted to plates and removed from the exhaust gas. They have the potential for emissions reductions up to 99%.¹⁰ Wet Scrubbers trap particles and gases

⁹ EPA. *Final Report on Retrofit Air Pollution Control Filters for Resturant Underfired Charbroilers.* https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/9132/report/F

¹⁰ Cushman B., (n.d). Engineering 37 Lecture, Dartmouth. *Electrostatic Precipitators.* Retrieved from <https://www.dartmouth.edu/~cushman/courses/engs37/ESPs.pdf>

in liquids, depending on the type of wet scrubber used, up to 99% emissions reductions can be achieved.¹¹ These forms of particle pollution control have the potential to obtain the necessary reductions needed to prevent the predicted increase of PM 2.5 in the emissions inventory.¹² Due to the potential for considerable emissions reductions, ESPs and wet scrubbers should be analyzed beyond their financial feasibility and be designated and AIP status. If AIP, the district should enforce the use of these technologies for facilities with the capacity.

Rule 4311 (Flares)

I. Strategy

- A. Overall Strategy. We strongly support the District’s proposal to require ultra-low NOx technology for flares in the Valley and encourage the inclusion of facilities with throughput of less than 20,000 MMBtu/yr where feasible. We also support the proposal to remove the non-major source exemption. As stated above, we support implementation of an updated rule for flares by 2023 at the latest, to follow the timeline proposed in the District's 2018 PM2.5 Plan.
- B. Expand Applicability. Due to the recent passing of Rule 1118.1 by the South Coast Air Quality Management District (SCAQMD), SJVAPCD should ensure that any updates to Rule 4311 are as or more stringent than those implemented by SCAQMD. To achieve consistency with SCAQMD Rule 1118.1, SJVAPCD should expand emission reduction efforts as proposed in the scoping presentation to include “non-refinery facilities, including, but not limited to, oil and gas production facilities, wastewater treatment facilities, landfills, and organic liquid handling facilities,” so that “emissions from flaring produced gas, digester gas, landfill gas, and other combustible gases or vapors and to encourage alternatives to flaring” are reduced.¹³
- C. Require Flare Minimization Practices. In the Stationary Sources Control Measure analysis, it was stated that “The District found a variety of flare minimization practices specific to each facility that could potentially be employed at other facilities to further reduce flaring at their operations. These practices may not only serve to reduce flaring activities and associated emissions but may also provide economic, safety, and other

¹¹ EPA (July 15, 2002) Chapter 2 Wet Scrubbers for Particulate Matter. *Particulate Matter Controls*. Retrieved from <https://www3.epa.gov/ttn/catc/dir1/cs6ch2.pdf>

¹² SJVAPCD. SJVAPCD PM 2.5 Plan: Appendix C Stationary Source Control Measure Analysis. <http://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf> Pg 204

¹³ SCAQMD. Rule 1118.1 Non-Refinery Flares. <https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/R1118-1.pdf?sfvrsn=9>

benefits to affected facilities.”¹⁴ Flare minimization practices should be required and implemented on a case by case basis to ensure total flaring by the facility is reduced annually at least 10%.”

D. Enforce Preventative Maintenance and Redundant Systems in Flare Minimization Plans.

We believe this strategy would reduce flaring and to prevent significant flaring events by minimizing downtime from equipment failure. The District has identified various benefits of preventative maintenance, such as the ability to indicate high pressure build up and the potential to predict failure in pipelines and stationary equipment. To support the maintenance programs and ensure as few equipment failures as possible, redundant systems should be required alongside maintenance. Redundancy systems reduce the potential of downtime by allowing operators to quickly switch from one system to another. The District has also identified benefits of redundant systems that would allow the minimization of flaring. Benefits include using redundant compressors to minimize flaring when the primary compressor is down. Combining these programs and systems within the flare minimization plan will only strengthen the plan and ensure flare minimization.

E. Reduce annual allowable flaring to much lower limits for each facility. One example:

PTO S-1737-157-6 #28 allows nearly 110 days of emergency flaring at maximum flow rates. This should be reduced to no more than 10 days. A variance with heavy fees and fines than currently imposed should be required for any amounts exceeding the annual limit. The annual limit should also be reduced each year.

II. Technology

- A. Further explore “new class of VOC deconstruction devices” identified by the District in the Stationary Source Control Measure Analysis. These devices offer ultra-low NOx emissions of approximately 0.018-0.025 lb-NOx/MMbtu and would allow significant emissions below the current rule’s requirement of 0.068 lb-NOx/MMbtu. If this technology has been achieved in practice for the Valley facilities with permits issued, it should be applied to all facilities where it is viable for replacement.¹⁵

¹⁴ SJVAPCD PM 2.5 Plan: Appendix C Stationary Source Control Measure Analysis. <http://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf> Pg. 157

¹⁵ SJVAPCD PM 2.5 Plan: Appendix C Stationary Source Control Measure Analysis. <http://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/C.pdf> Pg. 156

CVAQ and partners see tremendous opportunity for emissions reductions through rule amendments. As many of the largest emitters near the end of their Permits to Operate, strong amendments to current rules will allow for facilities to be updated to advance and maintain attainment of federal PM 2.5 standards. CVAQ and partners would like to thank District staff for their work on these rules. We look forward to seeing further amendments to District rules that will result in expedited attainment of federal PM 2.5 Standards.

Sincerely,

Catherine Garoupa White, Executive Director
Central Valley Air Quality Coalition

Caroline Farrell, Executive Director
Center on Race, Poverty, and the Environment

Kevin Hamilton, Co-Director
Central California Asthma Collaborative

Mark Rose, Sierra Nevada Program Manager
National Parks Conservation Association

Tom Frantz, President
Association of Irrigated Residents

Nayamin Matinez, Director
Central California Environmental Justice Network

Samuel Molina, CA State Director
Mi Familia Vota

Thomas Helme, Project Director
Valley Improvement Projects

Shivaugn Alves, Co-Founder
Patterson Progressive Alliance

Appendix C
9/30/18 CVAQ Coalition Letter on the San
Joaquin Valley Integrated PM2.5 Attainment
Plan



**The Roman Catholic
Diocese of Fresno**

September 30, 2018

Mr. Samir Sheik
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: San Joaquin Valley Integrated PM2.5 Attainment Plan

Dear Mr. Sheik,

On behalf of the undersigned community health, environmental, environmental justice, and faith groups and outside the San Joaquin Valley, we present the following comments on the San Joaquin Valley Air Pollution Control District's (Air District) Draft 2018 Plan for the 1997, 2006, and 2012 federal standards for particle pollution that is 2.5 microns or smaller (PM2.5) (Draft PM2.5 Plan). Our comments concern stationary and area sources of pollution under which the Air District has regulatory control. Comments regarding mobile sources will be directed to the California Air Resources Board (CARB), with the Air District copied.

The San Joaquin Valley has the worst PM2.5 pollution in the nation, with 24-hour and annual ambient air concentrations frequently in excess of federal health standards. PM2.5 pollution causes a range of significant, adverse health effects, including asthma attacks, heart attacks, heart disease, and premature death. Poor air quality keeps residents indoors, restricts outdoors activities, and leads many to leave the Valley due to health concerns. Poor air quality also impacts the environment, including negative impacts to the air, biome and visitors of Yosemite, Sequoia, and Kings Canyon National Parks.

The Clean Air Act provides that each state with a region in nonattainment of the federal standards must adopt a plan for improving air quality. The Clean Air Act further requires attainment be achieved "as

expeditiously as practicable.” We believe the Air District’s Draft PM2.5 Plan could be improved, and thus attainment practicably expedited. We propose the implementation of the following pollution-reduction recommendations in effort to achieve expeditious attainment of the federal health standards for PM2.5. Thank you in advance for considering our comments.

Reduce Residential Wood Burning:

- Reduce residential wood-burning threshold to 12 ug/m³ for all wood-fired combustion devices in the San Joaquin Valley, including EPA-certified devices;
- Release a multi-pronged, multilingual advertising campaign to educate the public on the health impacts of wood smoke;
- Develop a program to connect low-income residents with energy-related financial resources;
- Extend no-burn season timeframe to October 1 - March 31st;
- Increase enforcement, especially at night;
- Only provide incentives for natural-gas or non-portable electric heaters;
- Require wood burning devices, included EPA-certified devices, to be converted to gas or permanently disabled at the time real estate changes hands; and
- As a contingency measure, ban all non-essential burning.

Reduce Agricultural Burning:

- Streamline and coordinate federal, state and local incentive programs for sustainable agricultural practices;
- Increase the cost of an agricultural burn variance to \$800 - \$1,000 an acre;
- Use funds from variances to provide a \$200-an-acre incentive for farmers to mulch, incorporate, and/or compost wood waste;
- Require agricultural burning to follow the 12 ug/m³ residential wood-burning restrictions;
- Do not allow burning on days during - or directly proceeding - rain events;
- Increase enforcement during peak PM2.5 season and during exceptional events; and
- No longer offer political or economic support to the biomass industry.

Under-Fired Charbroilers:

- Require large under-fired charbroilers to install pollution control devices by 2024.
- Require pollution control devices on all new, large under-fired charbroilers; and
- Increase outreach and incentives for pollution control devices.

Address Emissions from Oil & Gas:

- Require all new oil and gas operations use solar-powered steam generators and boilers; and
- Include small unpermitted sources and small producers in all existing oil and gas rules.

Target Heavy-Duty Freight:

- Target mobile source incentives and enforcement in the most overburdened communities, especially around distribution warehouses located in/near residential areas; and

- Air District and CARB partner on mobile source enforcement.

Evaluate Ammonia-Reduction Strategies:

- Thoroughly evaluate the feasibility and costs of strategies to further reduce ammonia.

We believe the above pollution-reduction policies will lead to attainment of PM2.5 standards at faster pace than the current Draft PM2.5 Plan. For this reason, we believe the Air District should implement the above measures.

Sincerely,

Dolores Barajas-Weller
Central Valley Air Quality Coalition

Kevin Hamilton
Central California Asthma Collaborative

Nayamin Martinez
Central California Environmental Justice Network

Phoebe Seaton
Leadership Counsel for Justice & Accountability

Yolanda Park
Catholic Charities Diocese of Stockton

Tom Helme
Valley Improvement Projects (VIP)

Connie Young
Citizens' Climate Lobby, Fresno

Jim Grant
Roman Catholic Diocese of Fresno

Tom Frantz
Association of Irrigated Residents

Janet Howard
Community Resident

Mark Rose
National Parks Conservation Association

Dr. Anthony Molina
Community Resident

Bill Magavern
Coalition for Clean Air

CC: Richard Corey, California Air Resources Board

Appendix D
1/22/19 CVAQ Coalition Comments on the San
Joaquin Valley Integrated PM2.5 Attainment
Plan



January 22nd, 2019

Ms. Mary Nichols
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: San Joaquin Valley Integrated PM2.5 Plan

Chair Nichols and Board Members,

On behalf of the Central Valley Air Quality (CVAQ) Coalition and the undersigned organizations, we respectfully submit the following comments regarding the California Air Resources Board's (CARB) Proposed 2018 Plan for Attainment of the 1997, 2006, and 2012 federal standards for particle pollution 2.5 microns or smaller (PM2.5) (PM2.5 Plan or Plan).

CVAQ leads a coalition of over 70 local, regional and state member organizations all unified in their commitment to improve air quality and protect public health in the San Joaquin Valley. The region is repeatedly ranked as the most polluted air basin in the United States for PM2.5 pollution, with 24-hour and annual ambient air concentrations frequently in excess of federal health standards. In 2017, the air was unhealthy for half of the Valley's four million residents to breath on an estimated 144 days out of the year (San Joaquin Valley Regional Summary, American Lung Association, 2017). PM2.5 pollution is linked to a range of significant, adverse health effects, including asthma and heart attacks, the development of heart and lung diseases, and premature death. Poor air quality also keeps residents indoors, restricts outdoors activities,

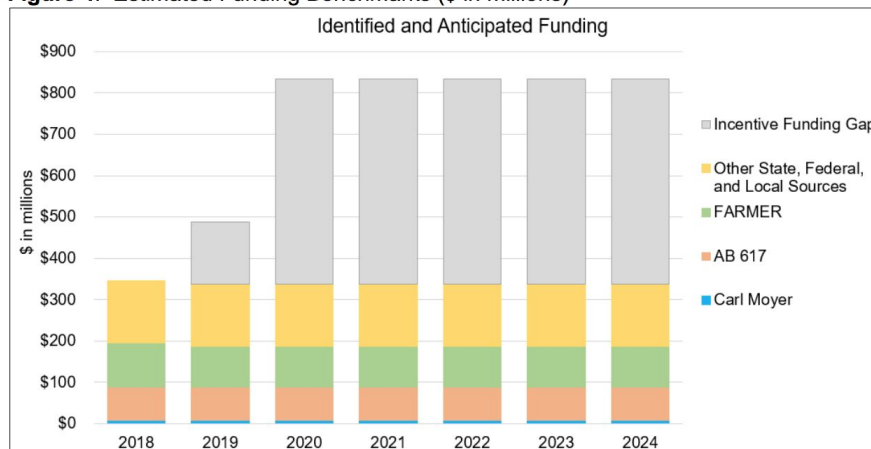
and leads many to leave the Valley due to health concerns. The need for a swift and effective PM2.5 Attainment Plan is vital for the public health of Valley residents.

The California Air Resources Board and the San Joaquin Valley Air Pollution Control District (Valley Air District or District) have made significant improvements to the San Joaquin Valley’s Draft PM2.5 Plan during the past 2-year planning process. These improvements include more stringent residential wood-burning and charbroiling rules, a new agricultural equipment rule, and a more robust public engagement process. However, the proposed Plan relies on a host of uncontrollable variables to achieve timely attainment of our PM2.5 standards, such as significant action from both the California State Legislature and the federal Environmental Protection Agency. Furthermore, major sources of pollution are left unaddressed in the Plan – including direct PM2.5 from oil and gas facilities and agricultural burning. CVAQ and its partners ask the CARB Board to adopt the proposed Plan, but direct staff to begin the development of a “Plan B” in the likely event the proposed Plan falls short of expectations.

I. Significant Uncertainties

The largest contingency upon which the proposed Plan relies is the unlikely expectation that five billion dollars will be allocated and properly invested to achieve the voluntary emission reductions necessary for attainment (see Figure 4 below). Dollars needed are well in excess of current or prospectively scheduled future appropriations, and because Greenhouse Gas Reduction Funds are expected to be in shorter supply in fiscal year 2019-20, California Governor Newsom’s budget proposal already cuts funding for clean-air programs. Funding for clean trucks, buses and freight equipment would decline from the already-inadequate \$180 million in 2018-19 to \$132 in 2019-20, and agricultural diesel funding would lower from \$132 million to \$25 million.

Figure 4. Estimated Funding Benchmarks (\$ in millions)



Source: CARB Staff Report: Review of the San Joaquin Valley 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards (December, 2018)

A critical 10% of reductions necessary for timely attainment is reliant on these unsecured investments. While CVAQ and partners understand that 90% of mobile-source emission reductions rely on existing “phase-out” regulations, the majority of those regulatory measures were put forth as part of CARB’s 2016 State Implementation Plan (SIP) for the 8-hour ozone standard—and thus are scheduled for full implementation along a 2031 timeline. Unlike the ozone attainment timeline, the state is obligated to reach attainment with the multiple PM2.5 standards much sooner (between 2020 and 2025). A large proportion of the state’s contributions to the PM2.5 plan is made through incentivizing earlier equipment turnover prior to a number of the regulatory actions from the 2016 SIP. Thus, to meet the earlier timeline, CARB’s PM2.5 plan relies heavily on the 10% of reductions that comes from roughly \$5 billion worth of incentives, for which less than \$1 billion has been identified. In other words, the largely unfunded 10% worth of reductions is the lever CARB is using to speed up attainment of the PM standards by the applicable dates.

In addition to unsecured investments, the Plan relies on the federal government committing to new locomotive and heavy-duty truck standards that they have not publicly agreed to, an assumption that the general public will comply 100% with new wood-burning rules, and the assumption that existing pollution-control systems, such as the Emission Reduction Credit (ERC) system, are working as intended and will guard against increases in pollution over time. Overall, the plan relies on many scenarios that are improbable.

To guard against these uncertainties, CARB committed to emission reductions “in aggregate.” On page 4-29 of the Plan, CARB staff proposes:

“to commit to achieve, in aggregate, 32 tons per day (tpd) of NOx emission reductions and 1 tpd of PM2.5 emission reductions [...] if a particular measure does not get its expected emission reductions, the State is still committed to achieving the total aggregate emission reductions [...] For example, if a federal heavy-duty low-NOx engine standard is not established, CARB will look to achieve the necessary reductions from other source categories, such as stationary sources.”

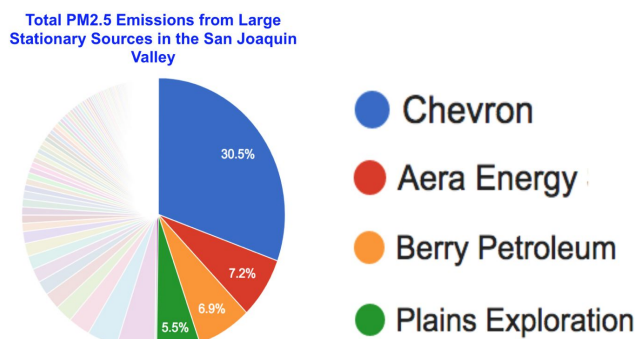
The legality of emission reductions in aggregate, a form of “black-box planning,” is questionable for PM2.5 plans, but not something this letter hopes to address. Rather, we seek to find solutions to the problem at hand. If CARB will look to “other source categories, such as stationary sources,” we believe CARB needs to start looking now.

II. Potential Solutions

CVAQ and partners outline three oversight opportunities available to the Board that will prepare the agency to take action if and when it is needed. These include reviewing the Valley’s largest stationary sources of PM2.5 to find potential opportunities for emission reductions, auditing the San Joaquin Valley’s ERC banking system, and expediting the review of the Valley’s agricultural burning program.

A. Review of Largest Stationary-Source Polluters

Oil and gas facilities are the largest stationary sources of direct PM2.5 in the San Joaquin Valley, and nothing in the proposed Plan addresses direct PM from this source category. Just four corporations - Chevron, Area Energy, Berry Petroleum, and Plains Exploration - account for half of all PM2.5 emissions from large stationary sources (CARB Air Pollution Mapping Tool, 2016). That is more direct PM2.5 than is produced by all passenger vehicles and light and medium-duty trucks combined (Emissions Inventory, 2015). Chevron alone produced 560 tons of direct PM2.5 in 2016 - more than was produced by all trains and aircraft combined. There may be opportunities for reductions at these facilities that could result in significant improvements for air quality, but they are not currently known.



Pollution from the oil and gas industry is expected to worsen. Kern County expects more than 72,000 new wells and associated infrastructure over the next 25 years (Kern County Oil and Gas Ordinance, 2016). This amounts to approximately 780,000 tons of air pollution through 2035. At such high levels, this projected expansion will produce the lion’s share of all air pollution emitted within Kern County by 2035, including 40 percent of all PM2.5 emissions and 70 percent of all nitrogen oxide (NOx) emissions county-wide (Arvin Petitioners’ Opening Merits Brief, 2016). Even with mitigation, expansion like this will cause a significant, cumulative increase in air pollution.

CARB Board Members should direct staff to conduct a thorough review of the largest stationary sources of direct PM2.5 in the San Joaquin Valley and report back to the Board on any uncovered opportunities for reductions. Furthermore, CARB should investigate the Emission Reduction Credit system often utilized by the oil and gas industry to expand operations.

B. Audit of Emission Reduction Credits

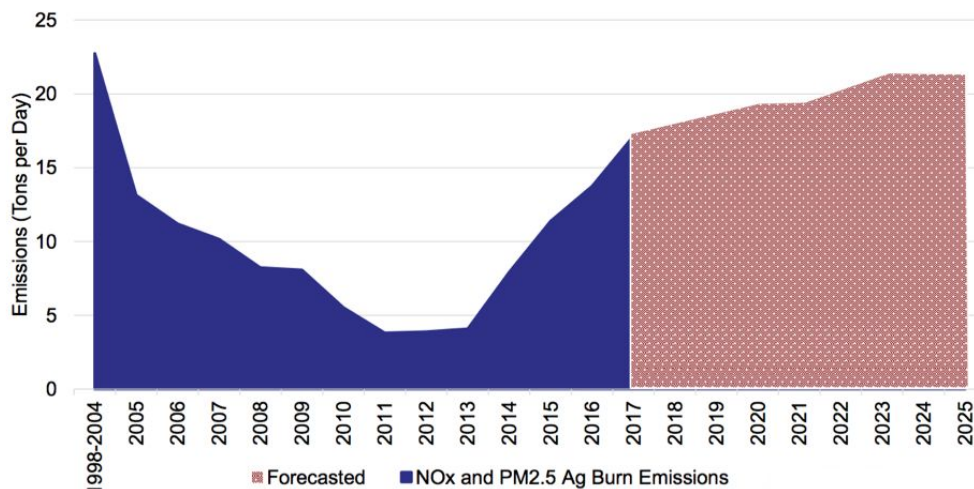
In the late 1970s, emission reduction credit (ERC) programs emerged from federal Clean Air Act as a means to allow for economic growth without increasing overall pollution levels. ERCs are credits companies can buy or obtain that represent emission reductions in excess of what is

required by law. There have been concerns in the San Joaquin Valley that the system is not functioning as intended, and is potentially facilitating pollution increases that go unaccounted for in modeling used to create SIPs. A 30-page report released by Earthworks in late 2018, *Undeserved Credit: Why emissions banking in California’s San Joaquin Valley puts air quality at risk*, confirmed some of these suspicions. The report found that approximately 1/3 of the emission reduction credits in the Air District’s volatile organic compounds (VOC) bank and 1/2 of the credits in their carbon dioxide and carbon dioxide equivalents (CO2e) bank appear to be invalid. The report further concludes that a review of even more certificates and their relationships would likely raise validity questions for an even larger proportion of credits in the District’s many banks. If credits are invalid, current permits that rely on them will result in more pollution than presumed, and thus the District and the State could potentially not meet pollution-reduction and climate goals as predicted. In a letter dated January 9th, 2019, CVAQ and a host of environmental and environmental justice organizations asked CARB to conduct an audit of the Emission Reduction Credit banks currently administered by the Air District, starting with the banks for VOCs, nitrogen oxides (NOx) and CO2e. Both VOCs and NOx are precursors to PM2.5, and thus important within the context of the PM2.5 Plan. The letter also asks for the findings of the audit to come back before the Board, so solutions to the potential problem can be discussed and addressed.

C. Expedited Review of Valley’s Agricultural Burning Program

Next to residential wood burning, agricultural burning is the second largest source of directly emitted PM2.5 in the San Joaquin Valley. However, nothing in the Plan addresses direct PM from this source category. One oversight opportunity for the Board concerns CARB’s role in approving or denying agricultural burn exemptions to the Valley Air District.

Table 1. Valley Agricultural Burning

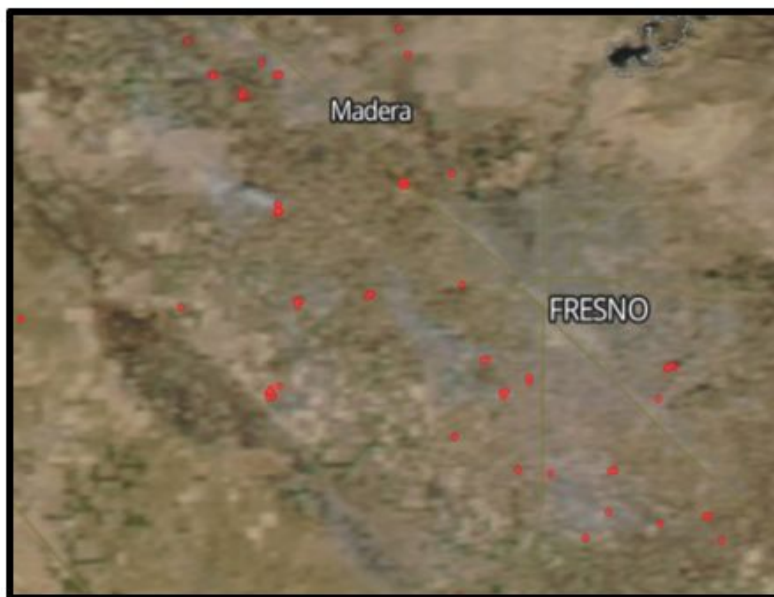


Source: San Joaquin Valley Air District's Summit on Alternatives to Open Burning of Agricultural Waste (2017) <http://valleyair.org/cvsummit/documents/presentations/Session02-Jessica-Olsen.pdf>

In December 2015, CARB staff concurred with the San Joaquin Valley Air District's 2015 *Agricultural Burning Review* which effectively granted the District a five-year exemption to the law governing the phase-out of agricultural burning. The District is allowed this exemption if CARB concurs with the determination that (1) there is no economically feasible alternative means of eliminating the waste, (2) there is no long-term federal or state funding commitment for the development of alternatives to burning, and (3) the issuance of burn permits will not substantially contribute to a violation of a federal ambient air quality standard.

CARB's concurrence was based on information provided by the District, including statements that total acreage of agricultural materials burned had been greatly reduced since 2002 and that there was no funding available for alternatives to burning. However, by 2016, the permitting of agricultural burns surpassed 2005 levels, and is expected to rise further (see Table 1 above). Also, funding for alternatives has increased over the past few years and is available from federal, state and now regional pots, including the federal Conservation Stewardship Program, the federal Environmental Quality Incentives Program, and the state Healthy Soils Program.

The CARB Board has the authority to increase oversight over agricultural burning in the San Joaquin Valley. At a minimum, it can ask staff to bring the next formal review, slated for mid 2020, before the Board for discussion and approval. The Board could also direct staff to expedite the review process. In the face of significantly increased agricultural burning, and further increases expected due to the replacement of annual leafy crops for perennial orchard crops, CVAQ and partners are in favor of an expedited review and for the item to be brought back before the Board in six-months time.



Source: NASA Worldview satellite imagery of fires and thermal anomalies taken December 21, 2017

III. Conclusion

It is unlikely the proposed Plan will bring the San Joaquin Valley into attainment of health-based standards for PM2.5 on the timeline required by the federal Clean Air Act. However, there remains significant opportunities for emission reductions in the San Joaquin Valley. CVAQ and partners respectfully request the CARB Board direct their staff to conduct more oversight - especially as it relates to the largest stationary sources of PM2.5, the ERC system, and agricultural burning - and come back in six months to publicly discuss the findings. If the PM2.5 Plan is not achieving the reductions required for timely attainment, or if state funding is not sufficient for Plan implementation, the Board would have the information necessary to act. The development of this “Plan B” is not only a good idea, but necessary for the protection of public health.

Sincerely,

Genevieve Gale,
Central Valley Air Quality Coalition

Pastor Trena Turner,
Faith in the Valley

Thomas Helme,
Valley Improvement Projects

Ivanka Saunders,
Leadership Counsel for Justice and Accountability

Catherine Garoupa-White,
Californians Against Fracking

Nayamin Martinez,
Central California Environmental Justice Network

Tom Frantz,
Association of Irrigated Residents

Works Cited

Agriculture is a major source of NOx pollution in California, M. Almaraz et al., Science Advances, 2018 <advances.sciencemag.org/content/4/1/eaao3477>

Air Quality and Meteorological Information (AQMIS2), California Air Resources Board <<https://www.arb.ca.gov/aqmis2/aqdselect.php>>

Almanac Emission Projection Data (published in 2013), 2020 Estimated Annual Average Emissions, San Joaquin Valley Air Pollution Control District <https://www.arb.ca.gov/app/emsinv/2013/emseic1_query.php>

Appendix B: Emissions Inventory, 2015 Plan for the 1997 PM2.5 Standard, San Joaquin Valley Unified Air Pollution Control District, 16 April. 2015

Appendix G: Precursor Demonstration, San Joaquin Valley Air Pollution Control District 2018 PM2.5 SIP, 2018 <<http://www.valleyair.org/pmplans/documents/2018/pm-plan/G.pdf>>

CARB Air Pollution Mapping Tool, San Joaquin Valley Air Basin, PM2.5 Emissions, California Air Resources Board, 2016 <https://www.arb.ca.gov/ei/tools/pollution_map/>

Meeting PM2.5 Standards in the San Joaquin Valley, Public Workshop, Fresno, California, California Air Resources Board, 1 Dec. 2016 <www.arb.ca.gov/planning/sip/sjvpm25/workshopslides.pdf>

Update on PM2.5 SIP Development for the San Joaquin Valley, California Air Resources Board Meeting Presentation, 25 May 2017 <<https://www.arb.ca.gov/board/books/2017/052517/17-5-3pres.pdf>>

Appendix E
9/17/19 CVAQ Coalition Comments to CARB RE:
Request for Revision to San Joaquin Valley PM2.5 SIP



September 17, 2019

TO: California Air Resources Board, Board Members and Staff

CC: San Joaquin Valley Air Pollution Control District
 U.S. Environmental Protection Agency, District 9
 California Environmental Protection Agency

RE: Request for Revision to San Joaquin Valley PM2.5 SIP

EXECUTIVE SUMMARY: The San Joaquin Valley leads the nation in PM2.5 pollution, with Bakersfield, Fresno and Visalia consistently ranked as the three most polluted metro areas in the United States. The PM2.5 Plan, passed by the California Air Resources Board in January 2019, is designed to bring the San Joaquin Valley into attainment of federal health-based standards for PM2.5 by 2024 and 2025. However, the Plan’s success relies on the prospect of \$5 billion in incentive funding over the life of the Plan. With the recent passage of the 2019-2020 State budget, a \$150+ million dollar funding gap emerged, and the funding gap is expected to grow as the Plan’s budgetary “asks” skyrocket over the next 5 years. CVAQ and partners do not see a reasonable route to reach attainment by 2024-2025. Therefore we urge CARB and the Valley Air District to develop and adopt a revision to the SIP to include additional and strengthened measures on mobile, area-wide, and stationary sources. In addition, CVAQ and partners repeat the ask that major stationary sources of pollution in the Valley (27 operations identified in Appendix B) are examined by CARB and the District for emission reduction opportunities, as these 27 operations emit as much PM2.5 as all on-road mobile sources in the Valley, and as much NOx as all passenger vehicles and medium-duty trucks combined. Moving forward, we request CARB expand their Stationary Source Division to ensure all opportunities for emission reductions and health protections are faithfully pursued.

September 17, 2019

The Honorable Board Members
California Air Resources Board
1001 I Street
Sacramento, CA 95814
<via email>

RE: Request for Revision to San Joaquin Valley PM2.5 SIP

Honorable Board Members,

The San Joaquin Valley's fine particulate matter (PM2.5) State Implementation Plan (SIP or Plan) is designed to bring the San Joaquin Valley (Valley) into attainment with the 1997, 2006, and 2012 federal health-based standards for PM2.5 by 2024 and 2025. However, the Plan's success relies heavily on the appropriation of \$5 billion in incentive funding from a variety of state, federal, and local sources over the life of the Plan. With the recent passage of the 2019-2020 state budget, a \$150+ million dollar funding gap emerged. The funding gap is expected to grow as the Plan's dependence on unsecured funds almost doubles in 2020. Relying on uncertain future sources of incentive funding to provide needed emissions reductions jeopardizes the health and well-being of over 4 million residents of the San Joaquin Valley. CVAQ and partners urge CARB to develop and adopt a revision to the SIP, and revive their Stationary Source Division, to ensure San Joaquin Valley residents are guaranteed their right to clean air.

I. Introduction

The San Joaquin Valley leads the nation in PM2.5 pollution, with Bakersfield, Fresno and Visalia consistently ranked as the three most polluted cities in the country. PM2.5 pollution causes a range of significant, adverse health effects. High ambient levels can induce asthma attacks, heart attacks, stroke and premature death, and contribute to the development of chronic heart and lung diseases, and increased susceptibility to asthma, allergies and diabetes.¹²³⁴⁵ In Kern County, one out of every 37 people died of a chronic respiratory disease between 2013 and

¹ American Lung Association <https://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/particle-pollution.html#cando>

² American Heart Association <https://www.ahajournals.org/doi/full/10.1161/CIR.0b013e3181dbee1>

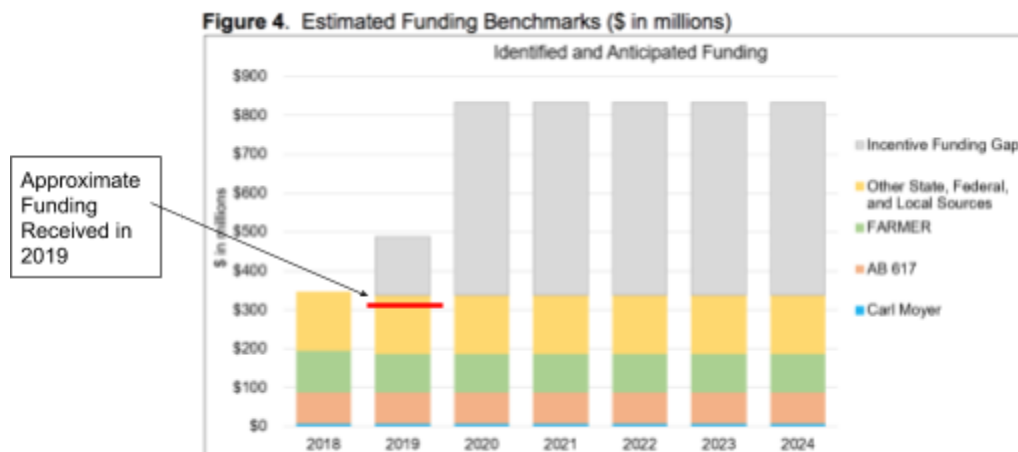
³ California State University, Fresno <http://www.csufresno.edu/chhs/cvhipi/documents/aqr-web.pdf>

⁴ Journal of Allergy and Clinical Immunology [https://www.jacionline.org/article/S0091-6749\(10\)01193-0/abstract](https://www.jacionline.org/article/S0091-6749(10)01193-0/abstract)

⁵ American Diabetes Association <http://care.diabetesjournals.org/content/33/10/2196>

2016 — a rate 12 times higher than the rest of the state.⁶ Poor air quality also leads to missed school and work days, restricts outdoors activities, and affects health, visibility and biodiversity within treasured natural areas like Yosemite, Sequoia and Kings Canyon National Parks.

The PM2.5 Plan, passed by the California Air Resources Board (CARB) in January 2019, is designed to bring the San Joaquin Valley into attainment of federal health-based standards for PM2.5 by 2024 and 2025. CARB and the San Joaquin Valley Air Pollution Control District (District) asked for roughly \$5 billion dollars over the life of the PM2.5 plan for implementation of various incentives-based measures. The first-year “ask” for 2019 was \$487 million dollars. CARB and the District tentatively received \$150 million less than expected, and approximately \$50 million less than 2018 state appropriations. Looking forward, the total ask skyrockets to \$833 million for each of the next 5 years.



Valley stakeholders have repeatedly expressed concerns about the overreliance of the PM2.5 Plan on uncertain future sources of incentive funding to provide needed emissions reductions. To remedy the uncertainty, the Plan states that “CARB will identify alternative options for achieving emissions reductions if anticipated funding does not materialize.”⁷ We have long stated that any plan reliant on unsecured funding with no clearly laid out Plan-B alternative to reduce “aggregate” emissions fits the definition of black box planning, which is prohibited for PM2.5 implementation plans under the Clean Air Act (CAA). To remedy this, the Central Valley Air Quality (CVAQ) Coalition and its partners urged CARB numerous times, including in letters dated January 22nd and April 15th, 2019,⁸ to review additional emission-reduction opportunities in

⁶ California Department of Public Health, United States Environmental Protection Agency and United States Census Bureau's American FactFinder <https://www.ehn.org/chronic-respiratory-disease-california-2621765230.html?rebelltitem=3#rebelltitem3>

⁷ CARB, Page 26: <https://ww3.arb.ca.gov/planning/sip/sjvpm25/2018plan/2018pm25staffreport.pdf>

⁸ see Appendix A & B

the event sufficient funding does not materialize or if the Plan does not progress towards attainment by the applicable dates.

Thus far, CARB staff have not pursued additional emission reduction opportunities in an effort to achieve PM2.5 goals, outside of pointing to possible future funding that remains speculative. While our Coalition is not against incentive-based reductions in the San Joaquin Valley, and we agree that they can be useful tools to help move industry towards cleaner technology, incentives must be anchored by regulatory backstops that ensure reductions during the attainment period. It is CVAQ's position that doubling down on budget advocacy for incentive funding is not an acceptable answer, especially as state priorities focusing on climate pollutants, wildfire and clean water increase pressure on the Greenhouse Gas Reduction Fund.

In summary, the Coalition does not see a reasonable route to reach attainment by 2024-2025. The only viable path forward is to revise the SIP to include more regulatory measures that will help close the growing funding gap and lessen our reliance on unsecured funds. We believe that CARB and the Valley Air District still have time to improve upon the immense progress already made on this PM2.5 SIP, prior to when EPA makes a decision on whether to federally approve or deny this SIP in the near future. Thus, right now is the time to revise this SIP to ensure the Plan not only meets the CAA requirements necessary for EPA approval, but that it provides a clear and sure path to bring the Valley into attainment by the applicable deadlines.

II. Opportunities for Additional Emission Reductions Under a SIP Revision

There are multiple opportunities to pursue additional emission reductions in the San Joaquin Valley that could be included in a SIP revision. The following section provides examples of potential measures on mobile, area, and stationary sources.

A. Mobile Sources

Medium- and Heavy-Duty Trucks: Truck and car emissions contribute to the formation of ammonium nitrate, which makes up roughly half of the measured airborne PM2.5 in the San Joaquin Valley. In CARB's Mobile Source Strategy, the agency acknowledged the magnitude of emissions reductions needed from medium- and heavy-duty vehicles won't be met by current policies. The Mobile Source Strategy further stressed that bringing the cleanest technologies to market as quickly as possible is essential for achieving near-term criteria pollutant reductions that can help make up the deficit. Given the current overlay of regulatory programs, CARB has expressed that deployment must come primarily through incentive mechanisms. Yet it is our belief that the Advanced Clean Truck rule currently being developed by CARB staff offers a critical opportunity to achieve earlier action.

The rule, which takes effect in 2024, requires large manufacturers (greater than 500 annual truck sales) to sell zero-emission medium- and heavy-duty vehicles as a percentage of their total sales. In addition to sending a market signal to manufacturers and fleets, the proposed rule includes a crediting mechanism whereby manufacturers can begin generating ZEV credits for trucks sold beginning in 2021, and bank them toward future compliance. The apparent policy objective of the crediting mechanism is to incentivize earlier action, and this allows the rule to influence the market before the 2023 attainment deadline. We view this as perhaps one of CARB's best opportunities to go beyond incentives and establish an adequate regulatory framework for accelerated penetration of ZEV trucks.

Unfortunately, the sales targets in the current proposed rule are far too low to incentivize early action. We are not aware of any analysis that suggests the proposed targets will put us on a path to meet national air quality standards. In fact, the targets are so low that much of the manufacturers' obligations could be met simply by buying credits from smaller manufacturers who are exempt from the rule, thereby allowing larger manufacturers to defer plans to ramp up early production and delaying mass deployment even further. This rule provides a critical opportunity to accelerate early deployment, yet the weak 2024 sales targets would fumble that opportunity.

The good news is that a far higher sales target is possible. Trucks in the San Joaquin Valley are ripe for electrification. They have frequent stops and shorter routes, with average truck trips between 48 and 71 miles.⁹ Publicly confirmed single orders for zero-emission trucks *today* are higher than the sales that would result from this rule 4 years from now. We urge CARB to direct Staff to revise the rule so that it begins with higher sales targets and achieves zero-emission vehicles for at least 15% of the total truck population by 2030. We believe this sales target is the minimum consistent with deployment levels necessary to meet the magnitude of our air quality crisis, to avoid being outpaced by growth in the total truck population, and to spur earlier participation from large manufacturers.

B. Area Sources

Under-Fired Charbroilers: Throughout the SIP process, the Valley Air District and CARB identified commercial charbroilers, from sources such as restaurants, as significant contributors of direct PM_{2.5} pollution in the Valley. We also believe these sources are worthy of serious emission reduction efforts. Unfortunately, despite assurances throughout the planning process viable rules would be developed to control emissions from charbroiling, the District pursued a strategy that relies on incentive-based measures with no regulatory backstops. need. Moreover,

⁹ <https://rsginc.com/files/publications/SJV%20freight%20forecasting%20models%20documenation.pdf>

as with the District's strategy for residential wood burning, the focus of the charbroiler measure outlined in the PM2.5 plan falls only within the "hot spot" areas. To help alleviate the financial burden inherent to this plan and achieve real-world health benefits for residents living near these sources, we ask that the SIP be revised to require a Valley-wide backstop regulatory measure for large charbroiling equipment.

Residential Wood Burning: The Valley Air District has identified residential wood-burning as the single greatest source of direct PM2.5 emissions during the winter months. CVAQ believes there are significant opportunities to further reduce direct PM2.5 emissions from residential wood-burning remain. These include the following recommendations to be addressed in a revised SIP:

- CVAQ recommends the Air District adopt a residential wood-burning curtailment threshold of 12 µg/m³ that should apply uniformly and Valley-wide to all source categories of residential wood-burning, except wood burning deemed essential or primary (i.e., 'homes with no other source of heat'). Sadly, communities initially identified as PM2.5 hot-spots - Visalia and Hanford - were ultimately excluded from the "Hot-Spot" areas singled out for stronger wood-burning curtailments in the final adopted SIP.
- The SIP should include specific, automatic contingencies for more stringent measures to be adopted for the identified hot spot areas should those areas fail to demonstrate attainment. In other words, Fresno and Kern counties, the two most likely counties to fail to meet clean air standards, need additional contingency measures.
- We strongly recommend incentives for residents who take out a fireplace or wood stove and convert to electric heat pumps, either specific room mini-split heat pumps or whole house HVAC systems. Alongside direct PM2.5 reduction, heating emissions of NO_x over the winter months and greenhouse gas emissions are decreased from burning natural gas.
- Contingency measures for areas outside of the proposed hot-spot areas should be triggered earlier ss should the Valley fail to show reasonable further progress towards reaching attainment. As it stands, these contingencies to expand hot-spot area curtailment thresholds to additional communities only come into place after the Valley fails to reach attainment by the applicable deadlines.
- The Plan should include a suite of new rules to achieve the Most Stringent Measures (MSM) requirements under the CAA. The residential wood-burning msm analysis in the SIP is flawed with respect to the source category comparisons of measures other districts have adopted. The suite of Most Stringent Measures with respect to residential already enacted in other districts that were omitted from the SJVAPCD SIP include:
 - ❑ Banning of the oldest, highly polluting uncertified wood-burning heaters.
 - ❑ A three-minute visible emissions limit for wood-smoke in excess of 20% opacity.

- ❑ Registration of essential wood-burning devices, required use of EPA certified devices for essential wood-burning, and exclusion of homes with propane-fired heaters or permanently installed electric heaters from the definition of essential wood-burning.
- ❑ Forbidding the use of wood-fueled residential cooking during the mandatory wood-burning curtailments.
- ❑ Addition of the months October through March in the period subject to mandatory curtailments.

Agricultural IC Engines: Stationary agricultural internal combustion (IC) engines burning diesel and natural gas contribute a significant amount of NO_x emissions. The diesel engines also emit direct PM_{2.5}. There are dozens of these engines near populated centers throughout the San Joaquin Valley, and a large percentage located within a reasonable distance to the power grid making conversion to electric motors feasible. A publicly available inventory with precise locations of these engines is necessary and feasible as the majority of these engines are already registered with the air district. With this inventory, the public will see where clusters of these engines are located. Which months of the year they are operating can also be determined. Some years, with ample surface water availability, these engines operate less in the summer months. Most winters surface water deliveries are curtailed to allow for maintenance of canal and other delivery systems and these engines are pumping groundwater for winter irrigation needs at the same time PM_{2.5} is at the highest levels. An overall picture is needed of the total and seasonal use of these engines and the resultant pollution effects on local air quality. If appropriate, a new program of electrification of these engines should be considered. A regulation forcing conversion at the most feasible locations, even with a monetary subsidy, may be useful. Alternatively, updated rules requiring the use of cleaner IC engine technology may be necessary to force more electrical conversions. Finally, a more forceful approach to electrification of agricultural engines, including those not used for pumping water such as dairy feed mixers, will have a synergistic effect of farmers installing more solar panels for their electrical needs. This of course leads to less air pollution and fewer greenhouse gases.

Ammonia Emissions: Ammonia combines with oxides of nitrate and oxides of sulfate to form approximately 60% of the mass of PM_{2.5} in the San Joaquin Valley when values are at their highest.¹⁰ Ammonia is therefore one of the most influential precursors to PM_{2.5} in the Valley. A 30% reduction to ammonia has been shown to have significant effects on reducing overall PM_{2.5} levels.¹¹ If the proposed Plan works as modeled, and NO_x levels lower as predicted over the coming decade, modeled reductions to ammonia are shown to be insignificant in reducing overall

¹⁰ <https://ww3.arb.ca.gov/planning/sip/sjvpm25/workshopslides.pdf>

¹¹ <http://www.valleyair.org/pmplans/documents/2018/pm-plan/G.pdf>

PM2.5 levels. However, expected NOx reductions are not guaranteed, and new evidence suggests that NOx levels in San Joaquin Valley are significantly undercounted, perhaps by 50%.¹² If this is the case, ammonia reductions would have a significant impact on overall pollution levels, especially in Kern County. CARB should direct staff to continue with their analysis of ammonia and thoroughly evaluate the feasibility and costs of strategies to reduce ammonia in the San Joaquin Valley.

NOx from Fertilized Fields: As mentioned in the earlier section on ammonia, advocates and researchers alike identified NOx emissions from soil as a potential unexplored source of PM2.5 pollution. For instance, researchers working with CARB identified soil NOx as the likely culprit in the search for a significant unidentified source of NOx emissions apparent in Central California.¹³ We agree with CARB staff that more research needs to be done to quantify the exact amount of NOx emissions emitted by soil. However, CARB's current position, which holds that all soil NOx emissions in the Valley is natural and therefore unrelated to man-made treatments is unacceptable. Of those emissions, it is clear that sources such as man-made fertilizer treatment account for at least a portion of soil NOx emissions in the Valley. To proceed with a plan that writes off 100% of soil NOx emissions as natural abdicates CARB and the Air District's duty to reduce all sources of PM2.5 using the most stringent measures available. Moving forward, we ask that CARB and the Valley Air District work with academics to finalize research needed to understand the role soil NOx plays in the Valley's PM2.5 problems and quantify the degree to which humans play a part in contributing to excess soil NOx. We respectfully request CARB staff report back on this item to the Board under a dedicated agenda item which explores the research and what can be done to regulate these emissions.

Agricultural Open Burning: Next to residential wood burning, agricultural burning is the second largest source of directly emitted PM2.5 in the San Joaquin Valley. The incentive program for alternatives to agricultural burning in the Valley is incredibly important and CVAQ applauds the District for moving forward on the program. However, the Coalition feels the fee or penalty for burning remains too low to be prohibitive, and the incentive for chipping and hauling is too much compared to reincorporating into soil. The incentive structure needs to be balanced to ensure individuals are making choices that protect public health. Furthermore, a regulatory backstop is needed, with an official end date to open burning in the Valley identified.

Conservation Management Plans: Fugitive dust produced by agricultural operations account for a statistically significant amount of year-round PM2.5 pollution; specifically, 9% of Winter PM2.5 and 21% of Summer PM2.5.¹⁴ District Rule 4550 requires agricultural operations or agricultural

¹² www.advances.sciencemag.org/content/4/1/eaao3477

¹³ <https://www.youtube.com/watch?v=VGNH46rlzsc&feature=youtu.be>.

¹⁴ Page 13, 14: <https://ww3.arb.ca.gov/planning/sip/sjvpm25/workshopslides.pdf>

feeding operation comprised of 100 acres of contiguous or adjacent land to adopt a Conservation Management Plan (CMP) in order to address fugitive dust emissions. Though a CMP is required for agricultural operations which meet the “100 contiguous/adjacent acreage” criteria, we understand that there is currently no enforcement occurring on behalf of the Air District to check the validity or effectiveness of the operation’s conservation management plan. A CMP application consists of an unverified report on how an agricultural operation plans to alter farming practices in order to reduce fugitive dust emissions. Implementation of a farming operations’ CMPs are reviewed on-site by District staff on a “voluntary basis.”

The District can improve the effectiveness of CPMs by 1) performing unannounced inspections to ensure operations are in compliance with their CMPs; 2) requiring newer/more efficient equipment be purchased (if available) as a part of the CMP renewal process; and 3) imposing penalties/fines on operations if they are found not in compliance. By creating accountability for the CMP in the form of increased enforcement and regulation, the Air District has the opportunity to significantly reduce localized PM2.5 exposure and reduce the cumulative PM2.5 burden in the San Joaquin Valley.

Indirect Source Rule: The Indirect Source Rule (ISR), which went into effect March 1, 2006, requires developers of large residential, commercial and industrial projects to reduce smog-forming and particulate emissions generated by their projects. In late 2017, the District was proposing amendments to the ISR. In a letter dated January 2017, the Coalition outlined multiple ways in which this rule could be strengthened. Today, the Coalition still agrees that:

- New large project overlays should not apply only to large projects, but to all projects covered by ISR, by removing the discretionary permit requirement entirely, rather than removing it for large projects only. Alternatively, a lower "large source" threshold could be applied. For example, the ISR should be triggered for heavy industrial projects at least 250,000 square feet, rather than 500,000 square feet.
- The District should not offer retroactive immunity to the rule.
- PM2.5 limits should be immediately instituted within the ISR for all new developments.
- The mitigation fee option should only be used as a last resort and, when used, the mitigation fee must be large enough to more than offset the emissions impacts.
- CARB should audit the ISR program to ensure it’s being implemented correctly and the fees are used effectively.

C. Stationary Sources

Small Oil Producers: According to the Air District Rule 4402, "Small Producers" are defined as operators that produce an average of less than 6,000 barrels per day of crude oil from all operations within the County over the preceding two calendar years. When environmental justice (EJ) organizations have filed reports of fugitive emissions from small producers, the Air District response has been that these operators are exempted from many of the regulations that apply to large crude producers in terms of vapor recovery and emission control technologies. Through the new Flare rule that is included in the PM2.5 Attainment Plan, some of these exemptions will be removed, but we strongly urge the Air District to conduct a comprehensive analysis of other rules that could be extended to cover all oil and gas producers regardless of their size.

Large Stationary Sources: Stationary Sources, including (but not limited to) power plants, manufacturing facilities and oil and gas fields, comprise approximately one-quarter of direct PM2.5 emissions and one-fifth of NOx emissions in the Valley¹⁵. The Valley currently houses over 5,500 industrial facilities classified as stationary sources. Upon review, CVAQ found only a fraction - totaling 27 of the approximate 5,500 facilities - emit 10 tons or more of PM2.5; the equivalent of 0.5% of all facilities. The 27 identified operations combined account for 60-70% of all direct PM2.5 and NOx emissions from stationary sources in the Valley (2016 data, CEIDERS). Additionally, these 27 facilities produce a combined total of 4 tons of PM2.5 and 10 tons of NOx per day; this total is the equivalent of the PM2.5 produced by all on-road mobile sources in the Valley, and the amount of NOx produced by all passenger vehicles and medium-duty trucks combined (2020 data, CEIDERS).

Within the PM2.5 Plan, CARB committed to achieve, in aggregate, 32 tons per day (tpd) of NOx emission reductions and 1 tpd of PM2.5 emission reductions (page 4-29). The Plan states that if a particular measure does not get its expected emission reductions, CARB "will look to achieve the necessary reductions from other source categories, such as stationary sources." At CARB's Board meeting on January 24th, 2019, the California Air Resources Board directed staff to, among other things, conduct a thorough review of emission-reduction opportunities at the Valley's largest stationary sources of pollution. In a letter dated April 15th, 2019,¹⁶ CVAQ and partners laid out what a stationary source review should look like, pointing to the 27 facilities or corporate operations for further study. We asked in the letter: What type of pollution control equipment is currently being used at each source, what are the emission-reduction opportunities at each source, including availability for BARCT retrofit and cost; and what, if any, ERCs are the facilities using and for what sources.

While waiting for a formal response from CARB, CVAQ moved forward with an internal analysis of some of the 27 facilities/corporate operations identified as major polluters in our

¹⁵ <https://ww3.arb.ca.gov/planning/sip/sjvpm25/workshopslides.pdf>

¹⁶ See Appendix B

April letter. CVAQ's analysis resulted in several observations regarding the implementation of District rules and the potential for improvement among facilities reviewed. Overall, the review revealed the need for more stringent rules and regulations on stationary sources.

- CVAQ found no direct limitations of PM2.5 emissions in permits throughout various industries, including oil and gas, glass manufacturing, biomass, utility/power plants. While we found consistent language regarding PM and PM10 emissions limits and NOx emissions limits addressed in the permits, PM2.5 emissions had no identified limit.
- The review revealed opportunities for emission reductions through electrification. For the 27 facilities CVAQ identified, several of their unit permits are set to expire within the next 5 years. This serves as an opportunity for electrification through new rules and regulations. The largest opportunity lies within IC engines, as mentioned earlier. These units are among the most common throughout the facilities reviewed. As the price of batteries is starting to drop, electrifying these units would allow for significant improvements for emissions emitted. Another opportunity lies within the electrification of steam turbines for the oil and gas industry. GE has made significant segway in the electrification of the oil and gas industry through their electrical engineering company, GE Power conversions, and is beginning conversions throughout this industry. Berry Petroleum and Chevron have started to pair solar energy with electrification on oil fields as well.
- Several facilities were potentially using BACT at the time of construction, but opportunities exist for technology upgrades. This was found to be especially true in regard to PM control technology. For example, while reviewing Gallo Glass Company's permits for their glass furnace units, it was found that "electrostatic Precipitators (ESPs) and/or ceramic filter type dust collector" are being combined throughout several of their furnace units. These control technologies are not identified by CARB or EPA as having the highest emissions reduction efficiencies. Rather, these agencies have identified a baghouse to have the highest efficiency.¹⁷ Additionally, the South Coast Air Quality Management District (SCAQMD) BACT guidelines for a glass furnace identified a baghouse as the best BACT application for glass furnaces.¹⁸ Another example is at biomass incinerators in the Valley. Currently, existing biomass incinerators utilize electrostatic precipitators (ESPs) for PM control. With the advent of Gortex baghouse that can withstand high heats, biomass incinerators have the potential to be upgraded from ESPs to baghouses in order to improve PM2.5 capture efficiency. Additional

¹⁷ <https://www3.epa.gov/ttnecat1/dir1/fsncr.pdf> and Air Resources Board (n.d). PM, VOC, SOx, CO, & NOx Control Devices. *Presentation Handout*. Pg. 10-16

¹⁸<http://www.aqmd.gov/docs/default-source/bact/bact-guidelines/part-d---bact-guidelines-for-non-major-polluting-facilities.pdf>

research found almost all biomass facilities in the Pacific Northwest have transitioned to the use of baghouse technology.

- Review of BACT guidelines between Districts demonstrated a need for the Valley to update their guidelines. The Air Districts guidelines for BACT appear to be outdated when compared to other Districts. For example, the BACT guidelines for a “Emergency Diesel IC Engine Driving a Fire Pump” and a general “Diesel IC Engine,” indicate that they were last updated in 2001 , while other Districts like the South Coast Air Quality Management District (SCAQMD) and the Bay Area Air Quality Management District (BAAQMD) indicate their guidelines for the same equipment was last updated in 2010. The Valley Air District's guidelines were last updated before the Valley was determined to be in nonattainment for several air pollutants. Along with the comparison of guidelines for similar units, CVAQ reviewed the District’s BACT limits on major pollutants for the same IC Engine types and compared them to those of the SCAQMD and BAAQMD. This comparison found that the Valley has less stringent limits on several pollutants. For example, when reviewing the PM 10 limit for a “Emergency Diesel IC Engine Driving a Fire Pump” the SCAQMD and BAAQMD have a 0.15 g/bhp-hr limit even when Best Available Control Technology for Toxics (T-BACT) is triggered. The Valley however has a 0.1 g/bhp-hr limit when TBACT is triggered and 0.4 g/bhp-hr limit when TBACT is not triggered. Such low thresholds allow for more PM pollution when TBACT is not triggered while the SCAQMD and BAAQMD do not allow more PM despite the status of T-BACT.

Pursuing emission-reduction opportunities through electrification and technological improvements for stationary sources is not only possible, but vital for clean air in the San Joaquin Valley. Our analysis shows identified areas for improvements, especially as they related to IC engines, steam turbines and generators, and biomass and glass facilities. However, while CVAQ’s analysis of various permits shined a light on some opportunities for emission reductions at stationary sources, it did not account for all emission reduction opportunities. In the letter addressing stationary sources sent in April of 2019, CVAQ requested CARB conduct a thorough analysis of the 27 facilities to uncover all opportunities for emission reductions. CARB responded on August 16th¹⁹ stating that CARB is in the midst of developing a technology clearinghouse, developing plans under Assembly Bill 617, and evaluating the District's emission reduction credit (ERC) program, and that these efforts will provide answers to some of the questions posed. While we are thankful for the work CARB is undertaking and look forward to the final results, not all facilities noted in our April letter are being addressed by the existing efforts, and those that are addressed are not all being examined for emission reduction opportunities. **Moving forward, CVAQ repeats the ask that all 27 facilities/corporate**

¹⁹ see Appendix C

operations are examined by CARB and the District for emission reduction opportunities and that this analysis is presented to the Board. The analysis could be integrated into existing efforts, so long as those existing efforts under AB 617 and the ERC program review are expanded to address the opportunities for emission reductions, and findings are brought back within the PM2.5 Planning process for potential inclusion into the SIP.

III. Need for Expanded Stationary Source Oversight Division at CARB

A state air quality agency should be able to answer basic questions about emission-reduction measures and opportunities in their state. As it stands, CARB is unable to answer questions from the community regarding whether or not the Valley Air District has employed the best available control technology for previously permitted sources, or if they are now requiring the most stringent measures for sources as required under the Clean Air Act. To remedy this, CVAQ asks CARB to revive its Stationary Source Oversight Division.

In the recent past, CARB had a more robust Stationary Source Program that worked with Air Pollution Control Districts and the business and scientific communities to reduce emissions from stationary sources. These duties included providing comments to lead agencies and districts on applications for permits to construct or modify facilities major sources.²⁰ After the Climate Change Division was formally added to CARB's organizational structure in 2013, stationary source mandates were, unfortunately, reduced. This led to the elimination of project reviews and a 30% budget cut for the division between 2011 and 2017.²¹ Moreover, additional mandates for climate change were added into the work of the stationary source division, lessening their ability to review actions taken by individual APCDs.

In CARB's August, 2019 letter to air quality advocates in the San Joaquin Valley, Mr. Corey lays out how CARB's stationary source work has recently been reignited.²² He specifies that the mandates of Assembly Bill 617, which created CARB's Community Air Protection division, requires CARB to put together a clearinghouse of Best Available Control and Retrofit Control Technology (BACT, BARCT respectively) for stationary sources and to update emissions reporting. However, despite increased oversight of stationary sources under programs like AB 617, as it relates to this PM2.5 SIP and other local CAA requirements, CARB still does not:

- Review District's BARCT and BACT determinations across the San Joaquin Valley for applicable stringency;

²⁰ http://dof.ca.gov/budget/historical_budget_Publications/2011-12/governors/documents/3890.pdf

²¹ <http://www.ebudget.ca.gov/2018-19/pdf/GovernorsBudget/3890/3900.pdf>

²² see Appendix C

- Comment on applications for permits to construct or modify facilities that are major sources of air pollution;
- Review ERCs application;
- Review major stationary sources within the AB-617 communities for emission reduction opportunities; nor
- Review the Air District’s compliance with the “most stringent measures” requirement of the Clean Air Act.

Moving forward, we ask CARB to consider re-strengthening their Stationary Source Division. We understand new mandates from the Legislature have split and stretched capacity, and that priorities are not always set by the agencies that implement them. However, reviving CARB’s Stationary Source Division is necessary to ensure all opportunities for emission reductions are being pursued and thus the health of all Californians is protected.

In summary, CARB’s and the Valley Air District’s overreliance on unsecured incentive funding to meet federal standards by 2024/25 jeopardizes the health and well-being of San Joaquin Valley residents. CVAQ and partners urge CARB to develop and adopt a revision to the SIP to include the aforementioned areas of opportunities for increased regulations on mobile, areawide, and stationary sources. Additionally, CVAQ urges CARB to increase oversight over the control of stationary sources of pollution by expanding their Stationary Source Division. Not only will the aforementioned recommendations and opportunities for emission reductions provide a real opportunity to meet federal standards, they will also ensure San Joaquin Valley residents are guaranteed their right to clean air.

Sincerely,

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Appendix F
Earthjustice Coalition Comments Re: Proposed
Approval of San Joaquin Valley Unified Air Pollution
Control District Rule 4901



February 10, 2020

VIA ELECTRONIC SUBMITTAL

Re: Proposed Approval of San Joaquin Valley Unified Air Pollution Control District Rule 4901, 85 Fed. Reg. 1131 (Jan. 9, 2020) [Docket No.: EPA-R09-OAR-2019-0693].

On behalf of Central California Asthma Collaborative and the National Parks Conservation Association, we thank you for this opportunity to comment on the EPA's approval of revisions to the California State Implementation Plan regarding the San Joaquin Valley Unified Air Pollution Control District (SJV) Rule 4901 for Wood Burning Fireplaces and Wood Burning Heaters. For reasons stated below, we believe SJV's proposed amendments to Rule 4901 are inadequate to meet the requirements of the Clean Air Act, and that EPA must disapprove the rule.

As EPA notes, SJV's request for an extension of the attainment deadline for the 2006 PM_{2.5} standards from 2019 to 2024 pursuant to Clean Air Act section 188(e) requires a demonstration that "the plan for that area includes the most stringent measures that are included in the implementation plan of any State or are achieved in practice in any State, and can feasibly be implemented in the area." 85 Fed. Reg. at 1132. As outlined below, Rule 4901 cannot be approved as meeting the most stringent measure (MSM) requirement for PM_{2.5} and PM_{2.5} precursors. Nor does the record support the measure as meeting even the best available control measure (BACM) requirement of Clean Air Act section 189(b)(1).

EPA's "Holistic" Approach to Reviewing Rule 4901 is Inconsistent with the Clean Air Act and EPA's Past Practice.

As detailed in these comments below, Rule 4901 includes control measures that are demonstrably not as stringent as measures included in other state implementation plans or achieved in practice. *See* Clean Air Act § 188(e). EPA cannot ignore these facts by claiming that the point of comparison is the rule "as a whole." 85 Fed. Reg. at 1133. Such an interpretation of the statute's control measure obligations elevates form over function by allowing less stringent control measures for certain sources to be approved by including them in a broader rule. EPA's holistic reading is inconsistent with section 188(e)'s requirement that most stringent measures include those that are achieved in practice even if not incorporated into a state implementation plan. Sources do not comply with the rule as a whole; they comply with the portions of the rule that are applicable to their operations. As such, the relevant point of comparison is not the rule as a whole, but a measure-by-measure comparison for a given source subject to the rule. *See also* 40 CFR § 51.1000 (describing BACM as any measure "that generally can achieve greater permanent and enforceable emissions reductions in direct PM_{2.5} and/or PM_{2.5} plan precursors from sources in the area than can be achieved through the implementation of RACM *on the same sources*") (emphasis added). In showing that other rules have specific control measures that are more stringent than the comparable measures in Rule 4901, commenters have demonstrated that

there are sources outside the San Joaquin Valley that are required to achieve more stringent emission reductions.

EPA itself has consistently looked at the specific measure within a rule, not simply the rule as a whole, in assessing compliance with the Clean Air Act's requirements. In EPA's analysis of the Imperial County Air Pollution Control District's Fugitive Dust Rules (Rule 800-806), EPA compared the specific control measures within the rules to comparable measures in other District rules and found several of these measures to be less stringent and therefore unapprovable as BACM.¹ Similarly, in EPA's comments on the Alaska Serious Area PM_{2.5} Plan, EPA specifically compared individual measures for controlling woodstoves with comparable measures in other states.² EPA's proposed departure here has no statutory basis and is inconsistent with EPA's past practice in assessing the stringency of control measures. EPA cannot look at these rules "holistically" in order to reject consideration of more stringent measures that have been implemented for similar sources in other areas. Rule 4901 cannot be approved as meeting the MSM requirement of section 188(e) or the BACM requirement of section 189(b)(1)(B) until it is revised to match these requirements.

Residential Wood Burning Is Not Regulated as a Single Source Category. Rather, It Comprises Several Discrete Sources to which Discrete Control Measures Apply.

Throughout current and previous versions of Rule 4901, SJV has separated and defined specific measures related to specific categories of woodburning sources, all of which should be analyzed individually to determine MSM adherence, as opposed to "holistically" as discussed above. For instance, SJV Rule 4901 has an explicitly defined source category, "Wood Burning Heaters" defined as "an enclosed, wood burning appliance capable of and intended for space heating (i.e., wood stove, pellet-fueled wood burning heater, or wood burning fireplace insert).³ SJV further divides the source category into two de facto sub-categories, differentiating between them for the purpose of regulation:

- a) Wood Burning Heaters that are "EPA certified" & "registered"; and
- b) Wood Burning Heaters that are not EPA certified & not registered.⁴

Other state air districts and jurisdictions have similarly made use of these same source distinctions for the purpose of applying different regulations to different types of wood-burning devices, and, in doing so, have applied more stringent measures to both these source types.

¹ See, e.g., EPA Analysis of Imperial County Air Pollution Control District's Regulation VIII – Fugitive Dust Rules 800-806 (Feb 20, 2010) (Docket ID #: EPA-R09-OAR-2010-0120-0243 (available at: <https://www.regulations.gov/document?D=EPA-R09-OAR-2010-0120-0243>).

² See <http://fnsb.us/transportation/AQDocs/EPA%20comments%20to%20March%202018%20ADEC%20draft%20SIP%20documents.pdf>

³ SJV Rule 4901, at 4901-4. Available at <https://www.valleyair.org/rules/currnrules/r4901.pdf>

⁴ *Id.* at 4901-9,10,11.

No other PM_{2.5} nonattainment area in the state allows the use of ‘Wood Burning Heaters that are EPA certified & registered’ on days forecast to have an average PM_{2.5} density above 35 µg/m³ — except in homes with no other source of heat. South Coast Air Quality Management District (SCAQMD) forbids their use at a threshold of 30 µg/m³.⁵ Utah forbids their use at a threshold of 25 µg/m³ in its nonattainment counties.⁶

By contrast, SJV forbids the operation of ‘Wood Burning Heaters that are registered and EPA certified’ only on days when a curtailment threshold of 65 µg/m³ is predicted (in the five non hot-spot counties) and 35 µg/m³ (in the three hot-spot counties) — a decidedly less stringent and health protective measure.⁷

With respect to ‘Wood Burning Heaters that are *not* EPA certified’, other jurisdictions have simply banned the use of this source category entirely.⁸ By contrast, SJV applies a far less stringent measure to this source category, and bans the use of ‘Wood Burning Heaters that are *not* EPA certified’ only for four months of the year, November through February, and only when average PM_{2.5} density in a county is predicted to reach or exceed either 20 µg/m³ (in the five non hot-spot counties) or 12 µg/m³ (in the three hot-spot counties).⁹ Eight months of the year there are no restrictions applied to this source category whatsoever – clearly a far less stringent measure for this source category than banning their use entirely as one air quality management agency has done and as another has achieved in practice in one of the cities in its jurisdiction.

What’s more, SJV has exempted entirely from wood-burning curtailments, “Wood Burning Heaters that are *not* EPA-certified” in homes with no other source of heat.¹⁰ Bay Area Air Quality Management District (BAAQMD) bans their use in homes with no other source of heat on days exceeding 35µg/m³ throughout the year,¹¹ and BAAQMD applies a more stringent measure to its definition of homes with no other source of heat, by not allowing homes with

⁵ SCAQMD Rule 445, 445-2

⁶ Utah Administrative Code, R307-302-3. No-Burn Periods for Particulates (1). Available at <https://rules.utah.gov/publicat/code/r307/r307-302.htm#T3>

⁷ SJV Rule 4901, 5.7.1.1 and 5.7.1.2

⁸ See generally, Santa Rosa, California in the Bay Area Air Quality Management District. Available at

http://www.fountaingroveii.com/sites/default/files/Woodburning_Brochure_Santa_Rosa_summarizing_Ordinance_3567.pdf; Tacoma-Pierce County Smoke Reduction Zone. Available at

<http://www.airsafepiercecounty.org/wood-stove-rule>

⁹ SJV Rule 4901, 5.7.1, 5.7.1.2

¹⁰ SJV Rule 4901,5.7.4. See also SJV Proposed 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards Appendix C: Stationary Source Control Measure Analyses summary at C264 and C274, available at <http://www.valleyair.org/pmplans/documents/2018/pm-plan-proposed/C.pdf>

¹¹ BAAQMD 6-3-301, 6-3-228, 6-3-227 and 6-3-110

propane or electric heat to qualify.¹² SJV exempts homes without natural gas service from all mandatory curtailments, a so-called “natural gas exemption” measure.¹³

Potential emissions from the discrete source category of "Wood Burning Heaters that are *not* EPA-certified" are substantial. SJV estimated in 2015 that there were 26,758 of these older, high emitting residential wood-burning devices in this source category. This means this source category is capable of cumulative emissions in excess of three-quarters of a ton of direct PM_{2.5} *per hour* (1740 pounds, using EPA’s emissions estimate of 29.5 g/hour for individual devices in source category).¹⁴

Measures that Must Be Implemented for Each Category of Wood Burning Device under Rule 4901 to Meet Clean Air Act Requirements.

The following measures are already implemented by other air quality regulatory agencies in the various locales noted—and should be adopted by SJV to meet the Clean Air Act statutory requirement for most stringent measures. This group of measures would contribute to significant emission reductions and more expeditious attainment of the PM_{2.5} standards.

Required measures for non EPA-certified wood-burning heaters (as defined in SJV Rule 4901¹⁵ and detailed above):

- SJV must forbid the operation of any uncertified wood heater as in the Tacoma-Pierce County Smoke Reduction Zone¹⁶ of Washington and in Santa Rosa, California.¹⁷ All wood heaters in Tacoma/Pierce that are not EPA-certified must be removed and recycled or rendered inoperable,¹⁸ except in homes with no other source of heat.

¹² BAAQMD 6-3-110 Limited Exemption, Sole Source of Heat

¹³ SJV Proposed 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards Appendix C: Stationary Source Control Measure Analyses summary at C264 and C274, available at <http://www.valleyair.org/pmplans/documents/2018/pm-plan-proposed/C.pdf>

¹⁴ 2015 Area Source Emissions Inventory Methodology 610 – RESIDENTIAL WOOD COMBUSTION, p39 Table A-5: Wood Stoves – Number of Device; p4 Table 2 - Residential wood combustion emission factors. Available at https://www.arb.ca.gov/ei/areasrc/districtmeth/sjvalley/sjvrwc2016_oct18.pdf

¹⁵ SJV 4901-9,10,11.

¹⁶ Tacoma-Pierce County Smoke Reduction Zone. Available at <http://www.airsafepiercecounty.org/wood-stove-rule>

¹⁷ Santa Rosa, California, in BAAQMD. Available at http://www.fountaingroveii.com/sites/default/files/Woodburning_Brochure_Santa_Rosa_summarizing_Ordinance_3567.pdf

¹⁸ Commenters note that the question of *how* such requirements should be met raises a variety of equity questions, and commenters look forward to working with the District to design solutions that ensure that these health protections are supported, particularly in disadvantaged communities.

Required measures for residential wood-burning in homes with no other source of heat:

- SJV must require the use of wood-burning devices that are EPA-certified in those homes with no other source of heat, as BAAQMD Regulation 6, Rule 3 requires.¹⁹
- SJV must exclude homes with propane-fired heaters or permanently installed electric heaters from the definition of ‘homes with no other source of heat’ as BAAQMD Regulation 6, Rule 3 requires,²⁰ and as Albuquerque Bernalillo County Air Quality Control Board requires.²¹ Instead, SJV Rule 4901 allows the inclusion in its definition of ‘homes with no other source of heat’ those homes equipped with these other heat sources, and exempts all homes without natural gas service from its mandatory wood-burning curtailments.²²
- SJV must require the registration of all such homes claiming no other source of heat as BAAQMD,²³ Utah Department of Environmental Quality,²⁴ Colorado Department of Public Health & Environment²⁵ and Bernalillo County Air Quality Control Board²⁶ all do (and as EPA has itself recommended.)

¹⁹ BAAQMD 6-3-110, Limited Exemption, Sole Source of Heat. Available at https://www.baaqmd.gov/~media/dotgov/files/rules/regulation-6-rule-3/documents/20191120_r0603_final-pdf.pdf?la=en

²⁰ BAAQMD 6-3-110

²¹ Albuquerque / Bernalillo County Air Quality Control Board, 20.11.22.7 D. **“Sole Source”** means one or more solid fuel heating devices installed for the purpose of space heating and which constitute the only source of heat in a building. No solid fuel heating device(s) shall be the sole source of heat in a building if the building is equipped with a furnace or heating system which was designed to utilize oil, natural gas, electricity or propane to heat the building and the furnace or heating system at one time was permanently installed in the building, whether or not the furnace or system presently is connected with or disconnected from its energy source.” Available at: <http://164.64.110.134/parts/title20/20.011.0022.html>

²² SJV 4109 5.7.4 and 5.7.4.1. SJV refers to this as a “Natural Gas Exemption” in its SJV Proposed 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards Appendix C: Stationary Source Control Measure Analyses summary at C264 and C274, available at <http://www.valleyair.org/pmplans/documents/2018/pm-plan-proposed/C.pdf>

²³ BAAQMD 6-3-404.

²⁴ Utah Administrative Code, R307-302-3. No-Burn Periods for Particulates (1). Available at <https://rules.utah.gov/publicat/code/r307/r307-302.htm#T3>

²⁵ Colorado Department of Health & Environment, Indoor burning restrictions, Exemptions: “A wood burning device is exempt from burning restrictions if any of the following are true: Device is not certified or approved, but indoor burning is the primary source of heat and an exemption letter has been issued from the state or local jurisdiction.” Available at: <https://www.colorado.gov/pacific/cdphe/indoor-burning-restrictions>

²⁶ Albuquerque / Bernalillo County Air Quality Control Board, 20.11.22.7 C “Exemption Conditions”

Required measures for registered, EPA-certified wood-burning heaters during November through February.

- SJV must proscribe the use of all EPA-certified wood-burning heaters on days forecast above 30 µg/m³ per SCAQMD Rule 445 (“Applies to the entire South Coast Air Basin whenever a PM_{2.5} level of greater than 30 µg/m³ is predicted for a source receptor area containing a monitoring station that has recorded a violation of the federal 24-hour PM_{2.5} National Ambient Air Quality Standard for either of the two previous three-year design value periods”).²⁷ This must apply valley-wide, in all eight counties, based on relevant county data (see table below):²⁸

Monitoring Sites	PM2.5		
	National 24-Hour Standard Design Value		
	2016	2017	2018
San Joaquin Valley			
Fresno County			
Fresno-Garland	54	54	58
Kern County			
Bakersfield-410 E Planz Road	61	59	60
Kings County			
Hanford-S Irwin Street	59	54	63
Madera County			
Madera-28261 Avenue 14	45	42	44
Merced County			
Merced-2334 M Street	40	38	43
San Joaquin County			
Stockton-Hazelton Street	39	39	56
Stanislaus County			
Modesto-14th Street	39	39	63
Tulare County			
Visalia-N Church Street	54	54	60

- SJV must proscribe the use of all EPA-certified wood-burning heaters on days forecast above 25 µg/m³ per Utah DEQ.²⁹

²⁷ SCAQMD Rule 445 (6) (B) p 445-2

²⁸ CARB Select 8 Summary. Available at: <https://www.arb.ca.gov/adam/select8/sc8display.php>

²⁹ Utah Administrative Code, R307-302-3. No-Burn Periods for Particulates (4) (4) When the ambient concentration of PM_{2.5} measured by monitors in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah or Weber counties are forecasted to reach or exceed 25 micrograms per cubic meter, the director will issue a public announcement to provide broad notification that a mandatory no-burn period for solid fuel burning devices is in effect. The mandatory no-burn periods will only apply to those counties identified by the director. A person within the geographical boundaries described in R307-302-2(1) shall not use a solid fuel burning device unless it is the sole source of heat for an entire residence and registered with the director.” Availability at: <https://rules.utah.gov/publicat/code/r307/r307-302.htm#T3>

Required measures for open hearth fireplaces and registered, EPA-certified wood burning heaters during March through October:

- SJV must extend to the entire year — beyond the current November to February regime — those days subject to mandatory episodic curtailment of residential wood-burning, consistent with BAAQMD, triggered at a 35 µg/m³ threshold.³⁰

Required measures with respect to enforcement sanctions:

- SJV must increase fines for violation of mandatory wood-burning curtailments:
 - Utah Division of Air Quality: penalties for using a fireplace, wood stove or any other solid-fuel burning device on a designated “no-burn” day \$150 for a first-time offense.³¹
 - BAAQMD: “second violations will result in a \$500 ticket; subsequent ticket amounts will be higher.”³²
 - Tacoma-Pierce County Smoke Reduction Zone: wood burning during a ban may result in fines up to \$1,000.³³

Required measures with respect to visible emissions:

SJV Rule 4901 allows all open hearth fireplaces and wood heaters to have visible smoke emissions of unlimited opacity for 15 minutes in any 4-hour period (a start-up period defined as “normal operating conditions”) and, for registered, EPA-certified wood-heaters, no visible emissions thereafter. Open hearth fireplaces and unregistered wood-heaters are allowed an additional three minutes visible emissions in any one-hour period, not to exceed 20% opacity thereafter.³⁴

- SJV must forbid wood-smoke emissions greater than 20% opacity for more than three minutes in any 60-minute period including startup time, subject to penalty, as the Oregon

³⁰ BAAQMD, 6-3-211

³¹ Utah DEQ news release, “Wood-Burning Restrictions Go into Effect November 1, 2018” “...fines for burning wood or other solid fuel devices on mandatory action days have increased to \$150 for the first violation of the burning restrictions...” Available at: <https://deq.utah.gov/communication/news/wood-burning-restrictions-november-1-2018>

³² BAAQMD news release, January 1, 2018, “Second violations will result in a \$500 ticket...” Available at: https://www.baaqmd.gov/~media/files/communications-and-outreach/publications/news-releases/2018/wsta_180101_2018_001-pdf.pdf?la=en

³³ Puget Sound Clean Air Agency news release, “Wood burning during a ban may result in fines up to \$1,000.” Available at: <http://www.airsafepiercecounty.org/burn-bans>

³⁴ SJV Rule 4901, 3.12 “Normal Operating Conditions” p 4901-2, and 5.8.1. & 5.8.2 p 4901-11.

Department of Environmental Quality has for any area classified as a nonattainment area for PM_{2.5}.³⁵

Required measures with respect to health hazard warnings:

- SJV must require anyone selling or leasing property with a wood-burning device to disclose the health hazards of wood smoke as part of the signed disclosure documents in the real estate purchase or rental transaction.³⁶

Required measures for wood-burning replacement devices:

- SJV must end incentive funds for wood-burning replacement devices of any kind *throughout the district* as is the practice with BAAQMD.³⁷

Required measures with respect to the use of wood for cooking:

- SJV must include cooking in the mandatory residential wood-burning curtailments. SCAQMD Rule 445 prohibits all non-essential residential wood-burning including residential wood-burning for the purpose of cooking, both indoor and outdoor, on days forecast above 30 µg/m³.³⁸ SJV Rule 4901 exempts cooking from its mandatory residential wood-burning curtailments.

Required measures for non-functional, permanently installed heaters.

- SJV must adopt BAAQMD's limited, 30-day exemption for non-functional, permanently installed heaters.³⁹ SJV policy allows a one-year exemption for repair of non-functional, permanently installed heaters.

Required measures for homes with available natural gas service and constructed with forced air furnaces:

- SJV exempts permanently from all mandatory wood-burning curtailments some homes with natural gas service that were built with forced air furnaces and for which no

³⁵ Oregon DEQ 340-262-1000 Wood Burning Contingency Measures for PM_{2.5} Nonattainment Areas (2) Available at:

<https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=76148>

³⁶ BAAQMD, 6-3-304

³⁷ BAAQMD Wood Smoke Reduction Incentive Program, Requirements, Terms, and Conditions. Available at:https://www.baaqmd.gov/~media/files/strategic-incentives/woodsmoke/2019/woodsmoke_incentive_program_requirements102119-pdf.pdf?la=z-h-tw

³⁸ SCAQMD Rule 445 p 445-5: (e) Mandatory Winter Burning Curtailment “No person shall operate an indoor or outdoor wood-burning device, portable outdoor wood-burning device, or wood-fired cooking device during the wood burning season when a mandatory winter burning curtailment is forecast for the specific region where the device is located, or on a Basin-wide basis as defined in paragraph (c)(6)

³⁹ BAAQMD, 6-3-111

evidence of the legally required county permit for the removal of the heater has been documented. No other air quality management district has a policy of allowing similar permanent exemptions. Albuquerque / Bernalillo County Air Quality Control Board expressly forbids it.⁴⁰

SJV's Hot Spot Strategy Is Facially Inconsistent with the Clean Air Act's MSM Requirements.

As an air basin, the *entire* San Joaquin Valley is considered to be in varying degrees of nonattainment with numerous National Ambient Air Quality Standards—not several arbitrarily defined counties falling within the nonattainment area. Thus, SJV cannot claim it is implementing the most stringent measures that can feasibly be implemented in the area if, within the San Joaquin Valley itself, communities in hot spot areas are required to implement more stringent measures for wood burning than a nearby community with serious PM_{2.5} nonattainment issues of its own that happens to lie outside of the hot spot area. For instance, if Fresno, Madera, and Kern Counties are required to lower the mandatory curtailment thresholds for registered, EPA-certified wood-heaters to 35 µg/m³, that measure is the most stringent for those sources within the entire nonattainment area, and is feasible for similar sources throughout the entire area. MSM requires that these sources in all other counties within SJV's jurisdiction comply with the more stringent 35 µg/m³ limit,⁴¹ as opposed to the less stringent status quo threshold of 65 µg/m³.⁴² Similarly for open hearth fireplaces – SJV has adopted the most stringent measure in the United States with respect to these sources, with a curtailment threshold of 12 µg/m³ in the hot spot counties, and cannot claim that such measures are not feasible for similar sources in the remaining counties of the nonattainment area.

Failure to adopt these feasible measures in every county will result in real world consequences for thousands of vulnerable individuals living in the numerous communities that did not receive hot spot status for seemingly arbitrary or political reasons. Throughout the draft and final rulemaking process for their 2018 PM_{2.5} plan, SJV looked at a number of cities and counties that they considered for qualification as hot spots, yet, in the end, made a decision that fails to include locations across the San Joaquin Valley (like Visalia in Tulare County and Hanford and Corcoran in Kings County), where monitors regularly show some of the highest levels of PM_{2.5} pollution in the region. It's hard to comprehend why a town like Visalia, ranked fourth in the nation for year round particle pollution, should have less stringent burn guidelines or less access to incentive

⁴⁰ Albuquerque/ Bernalillo County AQCB 20.11.22.7 D. “No solid fuel heating device(s) shall be the sole source of heat in a building if the building is equipped with a furnace or heating system which was designed to utilize oil, natural gas, electricity or propane to heat the building and the furnace or heating system at one time was permanently installed in the building, whether or not the furnace or system presently is connected with or disconnected from its energy source.

⁴¹ We note 35 µg/m³ is offered merely as an example to show the absurd results of SJV's approach. As discussed previously, there are yet *more* stringent measures that should be applied to this source category, e.g., the use of registered, EPA certified wood-burning heaters in Utah nonattainment counties are already subject to a more stringent 25 µg/m³ curtailment threshold.

⁴² SJVAPCD & CARB, *Draft 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} standards*, at 4-24.

funds than the high altitude Yosemite gateway town of Oakhurst in Madera County.⁴³ No county in SJV has met either the 2006 24-hr or annual PM_{2.5} NAAQS, thus it makes no sense to apply less stringent rules to some of them. As the table below demonstrates,⁴⁴ there is no rational basis for selecting Madera, Fresno and Kern as hot-spots while Stanislaus, San Joaquin, Merced, Kings and Tulare remain excluded.

PM2.5							
Est #Days > Natl 24-Hour Standard		Natl Annual Std Design Value		National 98th Percentile		National 24-Hour Design Value	
2017	2018	2017	2018	2017	2018	2017	2018
San Joaquin Valley							
Fresno County							
31.1	36.0	14.0	14.6	68.0	63.5	54	58
Kern County							
32.2	*	17.3	17.8	69.7	60.8	59	60
Kings County							
33.8	*	16.4	16.8	68.7	78.2	54	63
Madera County							
16.7	23.9	12.8	12.8	45.8	50.2	42	44
Merced County							
20.4	29.7	12.1	12.7	40.3	52.7	38	43
San Joaquin County							
16.9	25.0	12.2	13.8	44.2	92.3	39	56
Stanislaus County							
25.1	21.5	*	13.1	51.1	100.4	39	63
Tulare County							
26.7	42.3	15.7	16.1	74.6	63.4	54	60

Furthermore, the District’s contingency measure—to potentially expand the hot spot areas to include counties that fail to reach attainment—is too little too late, as attainment for those areas will already have failed.

Given the arbitrary manner in which the hot spot strategy appears to have been applied and the failure of both hot spot and non-hot spot counties to require the most stringent measures that have been put in practice in other nonattainment areas, we strongly urge the EPA to reject the hot spot strategy and require consistent, feasible reduction measures for the entire San Joaquin Valley. This is the only way to ensure all communities (including towns like Visalia and Hanford), see reductions in air pollution.

⁴³ American Lung Association, *2019 State of the Air Report*, available at,

<https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/most-polluted-cities.html>

⁴⁴ CARB Select 8 Summary. Available at: <https://www.arb.ca.gov/adam/select8/sc8display.php>

Conclusion

EPA must disapprove Rule 4901 for failing to comply with the Act's BACM and MSM requirements, which, at a minimum, require feasible control measures that have been required in other areas, including:

- Banning non-EPA-certified wood-stoves, consistent with what other districts have done;
- Banning the use of registered, EPA certified wood heaters from March through October at a forecast threshold of 35 $\mu\text{g}/\text{m}^3$ and from November through February at a threshold of 25 $\mu\text{g}/\text{m}^3$; and
- Banning the use of open hearth fireplaces with a forecast threshold of 12 $\mu\text{g}/\text{m}^3$.

All of these feasible measures must be required for all similar sources across the nonattainment area. Cumulative emission reductions in the Valley from the measures other districts have applied with respect to these sources would be substantial.⁴⁵ All of these measures have been implemented in other air basins, and must be implemented as expeditiously as possible in the San Joaquin Valley.

Sincerely,

/s/

Paul Cort
Earthjustice

⁴⁵ We note, in any event, that there is no *de minimis* exemption from such controls. *See* 81 Fed. Reg. 58010, 58096 (Aug. 24, 2016) (“EPA believes it would be particularly inappropriate to allow for a *de minimis* source category approach for MSM. The statute requires MSM to be implemented because the area is unable to attain the standard within 10 years of designation and has a more severe air quality problem. Congress clearly intended for such areas to more widely explore potential control measure possibilities, and a *de minimis* source category exclusion would be contrary to that intent.”).

Appendix G
NPCA and CVAQ Coalition Letters Requesting a 30-
day Comment Deadline Extension



Rory Mays
Air Planning Office, EPA Region IX
75 Hawthorne Street
San Francisco, CA, 94105

Re: Request for 30-day Comment Deadline Extension on EPA's Proposed Approval of the 2006 Fine Particulate Matter Nonattainment Area Requirements for California's San Joaquin Valley (Docket # EPA-R09-OAR-2019-0318).

Cc: Meredith Kurpius

Dear Mr. Mays,

On behalf of National Parks Conservation Association (NPCA) and the Central California Environmental Justice Network (CCEJN), I am writing to respectfully request that EPA extend the comment period for your proposed approval of the 2006 fine particulate matter nonattainment area requirements for California's San Joaquin Valley by an additional 30-days.

Fair and equitable public participation is a core tenet of the Clean Air Act. Unfortunately, due to the current COVID-19 health crisis in the United States, the ability of the public to fully participate in notice and comment rulemaking processes has been significantly diminished. EPA itself has recognized the unique circumstances we currently face as it relates to environmental compliance in your March 26th memo entitled "COVID-19 Implications for EPA's Enforcement and Compliance Assurance."

We strongly believe similar accommodations should also be afforded to the general public in this instance through the granting of a 30-day extension to the comment period that would allow all stakeholders a better opportunity to develop substantive comments. This need is especially pressing here in the San Joaquin Valley where residents and nearby public lands already face some the worst air quality in the nation. A 5-year extension to reach attainment with the 2006 fine particulate matter standard could have severe impacts on the health and wellbeing of communities and nearby landscapes. Thus, it is crucial that this proposal be fully analyzed by be public before finalized, which may not be possible in the timeframe currently given. Moreover, a 30-day extension would still allow ample time



for EPA to finalize the approval of this extension request before the upcoming June deadline.

For additional information related to NPCA's position as it relates to open rulemaking comment periods, please see the letter included below from NPCA and allies requesting a formal pause on all open comment periods for EPA and DOI rulemakings. Please also see the letter below from House Committee Chairs requesting an immediate extension of public comment periods.

We thank you for considering this request and look forward to submitting our formal comments on this proposal.

Sincerely,

A handwritten signature in black ink that reads "MARK ROSE".

Mark Rose
Sierra Nevada Program Manager
National Parks Conservation Association

Nayamin Martinez
Executive Director
Central California Environmental Justice Network (CCEJN)



Little Manila RISING



Rory Mays
Air Planning Office, EPA Region IX
75 Hawthorne Street
San Francisco, CA, 94105

Re: Request for 30-day Comment Deadline Extension on EPA’s Proposed Approval of the 2006 Fine Particulate Matter Nonattainment Area Requirements for California’s San Joaquin Valley (Docket # EPA-R09-OAR-2019-0318).

Cc: Meredith Kurpius

Dear Mr. Mays,

On behalf of the undersigned organizations, we respectfully request that the EPA extend the comment period for the proposed approval of the 2006 Fine Particulate Matter Nonattainment Area requirements for California’s San Joaquin Valley by an additional 30 days from the original deadline of April 27, 2020.

In light of the COVID-19 pandemic impacting the United States and its serious threat to those with health issues in the San Joaquin Valley (Valley), the capacity for public stakeholders to adequately participate in this process is significantly diminished. Communities throughout the Valley suffer serious impacts to their health and livelihood because of the Valley’s nonattainment of federal air quality standards. It is imperative that this proposal be fully reviewed by stakeholders in order to ensure relief for those affected by some of the worst air pollution in the nation. We believe that this unique circumstance falls under the scope of EPA’s March 26th “COVID-19 Implications for EPA’s Enforcement and Compliance Assurance” memo and therefore should be modified to ensure participation from stakeholders across the Valley.

Thank you for considering this request to facilitate stakeholders ability to submit comments on this proposal.

Sincerely,



Little Manila RISING



Catherine Garoupa White
Executive Director
Central Valley Air Quality Coalition (CVAQ)

Samuel Monlina
CA State Director
Mi Familia Vota

Destiny Rodriguez
Regional Community Relations
The Climate Center

Dillon Delvo
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Thomas Helme
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Valley Improvement Projects (VIP)

Shivaugn Alves
Co-Founder
Patterson Progressive Alliance
San Joaquin Valley Air District Citizens Advisory Committee