SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

PROPOSED OZONE CONTINGENCY MEASURE STATE IMPLEMENTATION PLAN REVISION FOR THE 2008 AND 2015 8-HOUR OZONE STANDARDS

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San Joaquin Valley UNIFIED AIR POLLUTION CONTROL DISTRICT

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1. INTRODUCTION

Under the federal Clean Air Act (CAA) and consistent with U.S. Environmental Protection Agency (EPA) guidance, attainment plans (State Implementation Plans, or SIPs) must include contingency measures that provide for additional emission reductions if the area fails to attain the air quality standard by the applicable deadline, meet a quantitative milestone, or show reasonable further progress (RFP) toward attainment of the standard. These measures are to be adopted and held in reserve to be automatically triggered under these scenarios. In regions such as the San Joaquin Valley (Valley) with mature air quality programs, contingency measures are inherently difficult to identify, particularly in light of several adverse court interpretations associated with recent EPA actions that have only made this requirement more stringent over time.

Prior to 2016, agencies could use "surplus" emissions reductions from fully adopted rules to satisfy the contingency requirement. These rules achieved continuing and new emissions reductions past the attainment deadline through phased-in implementation and ongoing technology deployment. However, in Bahr v. EPA, 836 F.3d 1218 (9th Cir. 2016) ("Bahr"), the court rejected EPA's interpretation allowing for early implementation of contingency measures that provided additional emission reductions, and held instead that contingency measures may only consist of new measures that do not take effect until triggered by an applicable CAA failure.

For many years, air basins outside the Ninth Circuit were able to continue relying on emissions reductions from already-implemented measures to fulfill the contingency measure requirement (*Louisiana Environmental Action Network v. EPA, 283 F.3d 575* (*5th Cir. 2004*) (*"LEAN"*). However, in *Sierra Club v. EPA*, 21 F.4 th 815 (D.C. Cir. 2021) the court cited and agreed with the Bahr case, superseding the *LEAN* decision and now prohibiting all regions in the nation from relying on surplus emissions reductions from early implemented measures to satisfy contingency measure requirements. This 2021 *Sierra Club* decision (published after EPA's implementation rule for the 2012 PM2.5 national ambient air quality standards (NAAQS) in 2016), coupled with increased nonattainment areas under increasingly stringent NAAQS, elevates the contingency measure problem to one of nation-wide significance. In response to *Bahr* and as part of the San Joaquin Valley's *2016 Plan for the 2008 8-hour Ozone Standard* (*2016 Ozone Plan*)[1], the California Air Resources Board (CARB) developed the statewide Enhanced Enforcement Contingency Measure (Enforcement Contingency Measure) for inclusion in the *2018 Updates to the California State Implementation Plan* (*2018 SIP Update*)[2] to address the need for a contingency measure meeting the newly interpreted requirement. Additionally, on April 16, 2020, the District Governing Board adopted amendments to District Rule 4601 (Architectural

[1] SJVAPCD. *2016 Ozone Plan for the 2008 8-Hour Ozone Standard*. (June 16, 2016). Retrieved from: https://ww2.valleyair.org/rules-and-planning/air-quality-plans/ozone-plans/2016-plan-for-the-2008-8-hour-ozone-standard/

[2] California Air Resources Board. *2018 Updates to the State Implementation Plan*. October 25, 2018. Retrieved from: https://ww2.arb.ca.gov/sites/default/files/classic/planning/sip/2018sipupdate/2018update.pdf

Coatings)[3] to include a contingency measure for the 2008 8-hour ozone standard.

CARB and the District worked closely with EPA staff in developing the contingency measure package that included the Enforcement Contingency Measure, the District's architectural coatings measure, and emission reductions from implementation of CARB's mobile source emissions program. As part of their action on the District and CARB's *2016 Ozone Plan*, EPA approved CARB's enforcement program as a "SIP strengthening" measure, the District's architectural coatings measure, and the implementation of the mobile source reductions along with a CARB emission reduction commitment as meeting the contingency measure requirement for this SIP.

Subsequently, the Association of Irritated Residents filed a lawsuit against EPA for its approval of various elements within the San Joaquin Valley *2016 Ozone Plan*, including the contingency measures. The Ninth Circuit Court of Appeals issued its decision in *Association of Irritated Residents v. EPA*[4] (*AIR*) that EPA's approval of the contingency element was arbitrary and capricious because EPA departed from its long-standing policy of requiring a SIP's contingency measure element to provide for emissions reductions equating to at least one year's worth of RFP without providing a reasoned explanation for its change in policy. The Ninth Circuit Court of Appeals held that, in line with EPA's longstanding interpretation of what is required of a contingency measure and the purpose it serves, together with *Bahr*, all reductions needed to satisfy the CAA's contingency measure requirements must come from the contingency measure itself, and that the amount of reductions needed for contingency cannot be reduced based upon surplus emission reductions from ongoing programs.

On October 3, 2022, based on the adverse court decision against EPA's actions, EPA took final action to withdraw their prior approval of the District and CARB's submittals addressing the contingency measure requirement for the 2008 8-hour ozone NAAQS, and took final action to disapprove the District's contingency measure element of the Plan for the 2008 8-hour ozone standard.[5] In this same action, EPA took action to approve the Enhanced Enforcement Activities Program measure as a SIP-strengthening measure. The effective date of this action is November 2, 2023. The actions discussed are detailed in Table 1 below.

[3] SJVAPCD. *Adopt Proposed Amendments to Rule 4601 (Architectural Coatings).* April 16, 2020. Retrieved from: https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2020/April/final/11.pdf
[4] *Association of Irritated Residents v. U.S. Environmental Protection Agency*, 10 F.4th 937 (9th Cir. 2021).
[5] EPA. *Withdrawal and Partial Approval/Partial Disapproval of Clean Air Plans; San Joaquin Valley, California; Contingency Measures for 2008 Ozone Standards*. October 3, 2022. Retrieved from: https://www.federalregister.gov/documents/2022/10/03/2022-20583/withdrawal-and-partial-approvalpartial-disapproval-of-clean-air-plans-san-joaquin-valley-california

Table 1 Contingency Measure Actions for 8-Hour Ozone NAAQS

Action Item	Citation
Conditional approval of the *2016 Ozone Plan*	84 FR 11198[6]
Association of Irritated Residents v. EPA	10 F.4th 937 (9th Cir. 2021)[7]
EPA reversal and conditional approval/disapproval of the contingency measures for the *2008 8-hour ozone NAAQS*	87 FR 59688[8]

EPA disapproval or inaction causes regulatory uncertainty, leading to inefficiencies and confusion, and can also result in devastating consequences to public health and the economy. As a result of EPA disapproval, the Valley is currently under sanctions and Federal Implementation Plan (FIP) clocks for disapproved contingency measures. Under these clocks, permit offset sanctions would be imposed 18 months from the effective date of the final disapproval. Highway sanctions would be imposed six months after the permit offset sanctions. In addition, EPA would be required to finalize a FIP 24 months from the effective date of the final disapproval. The sanctions and FIP are not imposed if EPA approves a subsequent SIP submittal that corrects the identified deficiencies before the applicable deadline.

EPA recently proposed to approve the District and CARB's *PM2.5 Contingency Measure SIP Revision*[9], which closely followed EPA recommendations recently released in EPA's *Draft Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter* (*Draft Guidance*).[10] The *PM2.5 Contingency Measure SIP Revision* included adoption of all feasible contingency measure opportunities and a contingency measure feasibility analysis of all emission sources under District and CARB control. EPA found that the District and CARB implemented all feasible contingency measure opportunities and that no other opportunities for contingency measures exist in the Valley, which demonstrates the stringency of the District and CARB's regulations. EPA's proposed approval of the *PM2.5 Contingency Measure SIP*

[6] EPA. *Clean Air Plans; 2008 8-Hour Ozone Nonattainment Area Requirements; San Joaquin Valley, California.* March 25, 2019. Retrieved from: https://www.govinfo.gov/content/pkg/FR-2019-03-25/pdf/2019-05159.pdf
[7] *Association of Irritated Residents v. U.S. Environmental Protection Agency*, 10 F.4th 937 (9th Cir. 2021).
[8] EPA. *Withdrawal and Partial Approval/Partial Disapproval of Clean Air Plans; San Joaquin Valley, California; Contingency Measures for 2008 Ozone Standards*. October 3, 2022. Retrieved from: https://www.federalregister.gov/documents/2022/10/03/2022-20583/withdrawal-and-partial-approvalpartial-disapproval-of-clean-air-plans-san-joaquin-valley-california
[9] EPA. *Air Quality State Implementation Plans; Approvals and Promulgations: California; Clean Air Plans; Contingency Measures for the Fine Particulate Matter Standards; San Joaquin Valley.* December 19, 2023. https://www.regulations.gov/document/EPA-R09-OAR-2023-0477-0001
[10] EPA. *DRAFT: Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter.* March 16, 2023. https://www.epa.gov/system/files/documents/2023-03/CMTF%202022%20guidance%203-17-23.pdf

Revision on December 20, 2023, sets the foundation for this *Ozone Contingency Measure SIP Revision*.

Following the precedent setting contingency actions described above, the District and CARB are providing this *Ozone Contingency Measure SIP Revision* to revise the District's contingency measure commitment for the 2008 and 2015 8-hour ozone NAAQS. The contingency measure from the District is included in District Rule 4601 (Architectural Coatings), and CARB has incorporated a contingency measure within their smog check measure for mobile sources.

This evaluation will be transmitted through CARB to EPA for approval and incorporation into the California SIP. This proposed *Ozone Contingency Measure SIP Revision* would replace relevant portions of the *2016 Ozone Plan*, *2018 SIP Update*, and *2022 Plan for the 2015 8-Hour Ozone Standard* (*2022 Ozone Plan*).[11]

2. EPA DRAFT GUIDANCE FOR CONTINGENCY MEASURES

In light of the difficulty nonattainment areas face in addressing CAA contingency requirements in light of the recent court decisions described above, the District, CARB, and other agencies have urged EPA to provide updated federal guidance. In particular, the historical contingency framework created several regulatory absurdities:

- Early implementation of measures improves public health and contributes to progress towards attainment of more stringent NAAQS. Withholding emissions reductions for contingencies slows public health improvements in nonattainment and environmental justice areas.
- Withholding a measure from the District's attainment strategy that achieves further emission reductions and advances attainment is unreasonable given the District's nonattainment challenges.
- Regions that are nonattainment for multiple standards must meet different RFP milestones and attainment deadlines under each NAAQS. If a region must withhold emissions reductions (e.g. NOx reductions) to satisfy a contingency measure need for one NAAQS, then that region will hinder its ability to meet milestones and attainment deadlines under other NAAQS as well.
- There are multiple contingency years in each SIP, and areas like the Valley must identify contingencies for multiple SIPs and NAAQS. The scarcity of available contingency measures is compounded if an area needs to identify replacement contingency measures in the future.

In response, EPA developed the *Draft Guidance* on March 17, 2023. The District, CARB, and other local/state air quality management agencies engaged with EPA in the development of this *Draft Guidance* to provide technical input and recommendations

[11] SJVAPCD. *2022 Plan for the 2015 8-Hour Ozone Standard*. (December 15, 2022). Retrieved from: https://ww2.valleyair.org/media/q55posm0/0000-2022-plan-for-the-2015-8-hour-ozone-standard.pdf

through workgroup meetings and ongoing staff discussions. The purpose of the *Draft Guidance* is to identify solutions and flexibility related to key issues that regions face in developing approvable contingency measures, including the scarcity of available measures, implementation timelines following a contingency trigger, and the amount of reductions needed, among other issues.

The *Draft Guidance* contains three main concepts: (1) revising the quantity of emissions reductions that contingency measures should provide to account for declining emissions inventories over time; (2) allowing for an infeasibility justification if an area is unable to identify feasible contingency measures in sufficient quantities due to a scarcity of available, qualifying measures and/or (3) revising the time period within which emissions reductions from contingency measures should occur.

3. CONTINGENCY MEASURE EMISSION REDUCTION TARGETS

In its new *Draft Guidance*, EPA has recognized that the longstanding policy of requiring emission reductions of one year's worth of RFP for contingency measures is extremely challenging and infeasible for areas such as the Valley. EPA's *Draft Guidance* therefore puts forth a new approach to calculate the recommended quantity of emission reductions, which EPA has labeled One Year's Worth of Progress (OYW_P). Based on this *Draft Guidance*, the following table summarizes the NOx and PM2.5 emission reductions needed to demonstrate that OYW_P is being achieved through the contingency measure. In EPA's *Draft Guidance*, the OYW_P value is calculated as the average emission reductions expected per year over the planning time line, expressed as a percentage of the base year emission inventory, and then applying this percentage to the attainment year inventory to result in an emission reduction target for contingency. In mathematical form, this would be expressed as:

$$OYW_P = \frac{\frac{(base\ year\ EI - attainment\ year\ EI)}{(attainment\ year - base\ year)}}{base\ year\ EI} * (attainment\ year\ EI)$$

The steps for the calculations for the 2008, and 2015 Ozone standards are detailed below, consistent with EPA's *Draft Guidance*.

Step 1: Calculate the summer reductions needed to attain for each relevant precursor.

	2008 Standard	2015 Standard
ROG Step 1a	$337.3\ tpd - 296.7\ tpd = 40.6\ tpd$	$325.68\ tpd - 288.45\ tpd = 37.23\ tpd$
ROG Step 1b	$40.6\ tpd \div 19\ years = 2.14\ tpd$	$37.23\ tpd \div 20\ years = 1.86\ tpd$
NOx Step 1a	$339.6\ tpd - 131.9\ tpd = 207.7\ tpd$	$232.39\ tpd - 62.0\ tpd = 170.39\ tpd$
NOx Step 1b	$207.7\ tpd \div 19\ years = 10.9\ tpd$	$170.39 tpd \div 20\ years = 8.52\ tpd$

Step 2: Calculate the annual percentage reduction needed to attain.

	2008 Standard	2015 Standard
ROG	$2.14\ tpd\ \div 337.3 = 0.0063\ (or\ 0.63\%)$	$1.86\ tpd\ \div 325.68 = 0.0057\ (or\ 0.57\%)$
NOx	$10.9\ tpd\ \div 339.6 = 0.032\ (or\ 3.2\%)$	$8.52\ tpd\ \div 232.39 = 0.037\ (or\ 3.7\%)$

Step 3: Calculate the amount of reductions needed for OYW_P of progress.

	2008 Standard	2015 Standard
ROG	$296.7\ tpd \times 0.63\% = \mathbf{1.87\ tpd}$	$288.45\ tpd \times 0.57\% = \mathbf{1.65\ tpd}$
NOx	$131.9\ tpd \times 3.2\% = \mathbf{4.22\ tpd}$	$62.0\ tpd \times 3.7\% = \mathbf{2.29\ tpd}$

The following table summarizes the amount of emissions reductions needed to achieve the target, for each respective ozone NAAQS, based on the OYW_P approach outlined in the *Draft Guidance*.

Table 2 Contingency Measure Reductions Needed under OYW_P Approach

Standard	Base Year	Attainment Year	RFP Years	Contingency Summer Average Emission Reduction Targets (tons/day)	
				NOx	VOC
2008 8-hour	2012	2031	2018, 2021, 2024, 2027, 2030	4.22	1.87
2015 8-hour	2017	2037	2023, 2026, 2029, 2032, 2035	2.29	1.65

Under the prior EPA contingency policy, the contingency reductions would need to be achieved in the year after which the contingency provision was triggered.[12] However, EPA's *Draft Guidance* on contingency measures allows emission reductions to be achieved within two years of the contingency triggering event.

Additionally, EPA's *Draft Guidance* explains that, where areas are unable to identify and adopt feasible contingency measures that would reduce emissions by an amount sufficient to meet the OYW_P, then it would be appropriate to submit contingency measures that result in less than that amount, using a reasoned justification approach demonstrating the lack of sufficient feasible measures to meet the recommended quantity of contingency measures.

[12] "*Guidance on Issues Related to 15 Percent Rate-of-Progress Plans*," Memorandum from Michael H. Shapiro to Regional Air Directors (August 23, 1993), available at: https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19930823_shapiro_15pct_rop_guidance.pdf

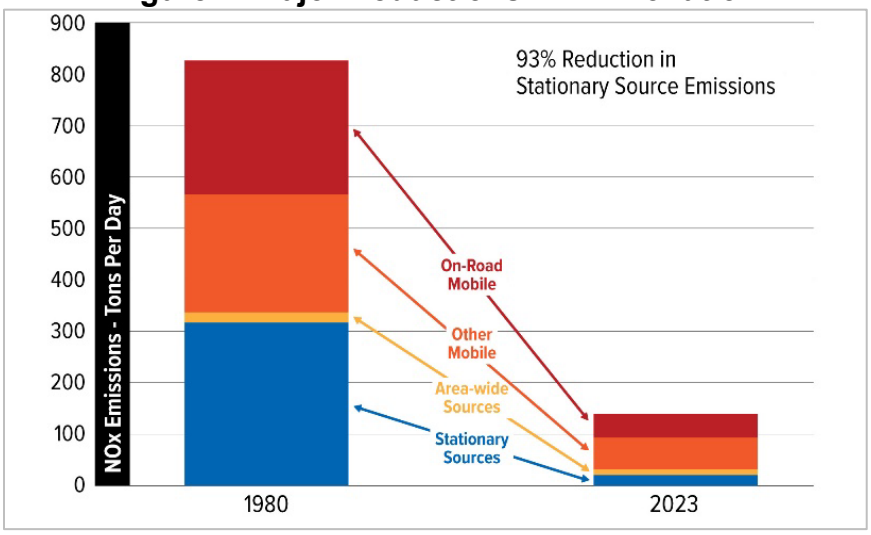
4. OPPORTUNITIES FOR CONTINGENCY MEASURES

4.1 Stringency of District and CARB's Regulatory Program

The San Joaquin Valley's challenges in meeting national ambient air quality standards are unmatched anywhere in the nation due to the region's unique combination of topography and meteorology. Since 1992, the District has adopted over 670 rules to implement an aggressive on-going control strategy to reduce emissions in the Valley in order to reach attainment of the federal mandates, resulting in air quality benefits throughout the Valley.

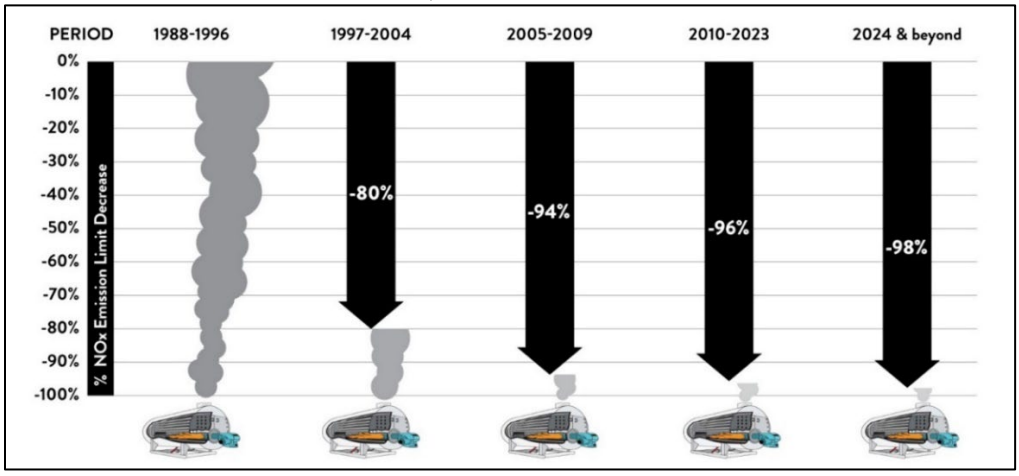
Through these ongoing efforts by the District, and significant efforts by CARB to reduce emissions from mobile sources, NOx emissions across the Valley have been reduced by over 75%, while stationary source emissions, which are under the District's jurisdiction, have been reduced by over 93% since 1980. Although significant progress has been made in reducing emissions, substantial additional emissions reductions are still needed to meet all of the federal PM2.5 and ozone standards. These additional reductions will be needed across the Valley as the population across the region continues to grow, bringing additional vehicle emissions, goods movement emissions, and other emissions.

Figure 1 Major Reductions in Air Pollution



Through the history of the District's regulatory program, emissions from a variety of industries and area sources have been aggressively reduced compared to uncontrolled levels, with emissions reduced by well over 90% for various industrial stationary sources. For example, with respect to boilers, steam generators, and process heaters, the following illustration summarizes the significant emissions reductions achieved relative to baseline emissions levels.

Figure 2 Significant Emissions Reductions from Industrial Boilers, Steam Generators, and Process Heaters



The stringency of the District's stationary source regulatory program has been affirmed through state and federal approvals of District plans and regulations, including establishing the District as implementing all feasible measures, best available control measures, most stringent measures, best available retrofit control technology, and other applicable requirements. As an example, within the District's *2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards* (*2018 PM2.5 Plan*)[13], a thorough evaluation of District PM2.5 rules was performed, in order to satisfy Most Stringent Measure requirements for a region to be granted an attainment deadline extension. EPA agreed with this analysis in its February 2020 evaluation of Best Available Control Measures (BACM) and Most Stringent Measures (MSM) for the 2006 PM2.5 NAAQS. As a result, EPA determined that District rules for stationary and area sources meet or exceeded requirements necessary to implement BACM and MSM in the Valley.[14] EPA finalized its approval of this analysis in July 2020[15], certifying that the District's PM2.5 and NOx rules were the most stringent in the nation. Furthermore, in response to a lawsuit filed by several organizations challenging EPA's approval of the *2018 PM2.5 Plan*, on April 13, 2022, the Ninth Circuit Court of Appeals upheld EPA's conclusion that the District is implementing BACM and MSM, concluding that "*EPA undertook a rigorous analysis of compliance with BACM and MSM requirements.*" Most recently, EPA again recognized the stringency of the District's rules in their recent approval of the District's attainment plan for the 1997 annual PM2.5 standard, taking final action to approve the District's

[13] SJVAPCD. *2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards*. (November 15, 2018). Retrieved from: https://www.valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf

[14] EPA. *Technical Support Document, Evaluation of BACM/MSM, San Joaquin Valley PM2.5 Plan for the PM2.5 Plan for the 2006 PM2.5 NAAQS*. (February 2020). Retrieved from: https://www.regulations.gov/document/EPA-R09-OAR-2019-0318-0005

[15] EPA. *Clean Air Plans; 2006 Fine Particulate Matter Nonattainment Area Requirements; San Joaquin Valley, California.* (July 22, 2020). Retrieved from: https://www.govinfo.gov/content/pkg/FR-2020-07-22/pdf/2020-14471.pdf

BACM/BACT demonstration as meeting CAA requirements, along with other plan elements for Serious nonattainment areas.[16]

To achieve the significant emission reductions necessary for expeditious attainment, the *2018 PM2.5 Plan* includes stringent stationary and mobile source control measures, as well as incentive-based control measures to accelerate the deployment of new clean vehicles, equipment, and technologies across a variety of sectors. The vast majority of the District and CARB's emission reduction commitments are achieved through new regulatory measures. Since adoption of the *2018 PM2.5 Plan*, the District and CARB have adopted numerous new regulations and are now close to meeting all of the Plan's control measure commitments, and are already exceeding the District's total aggregate emission reduction commitments for direct PM2.5 and NOx. In addition, the District and CARB recently adopted the *2022 Ozone Plan* in December of 2022, which contained a number of new commitments to further reduce NOx and VOC emissions.

Table 3 below highlights a number of recent District regulatory actions that result in direct reductions of NOx, PM2.5, and VOCs in the Valley.

Table 3 New District Stationary Source Regulations Since Adoption of *2018 PM2.5 Plan*

Measure	Status
Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters)	Adopted June 2019
Rule 4601 (Architectural Coatings)	Adopted April 2020
Rule 4311 (Flares)	Adopted December 2020
Rules 4306/4320 (Boilers, Steam Generators, Process Heaters)	Adopted December 2020
Rule 4692 (Commercial Underfired Charbroiling)	Enhanced Strategy adopted December 2020
Rule 4103 (Phase-out of Agricultural Open Burning)	Adopted June 2021
Rule 4702 (Internal Combustion Engines)	Adopted August 2021
Residential Woodstove Replacement Federally Enforceable Measure	Adopted November 2021
Rule 4354 (Glass Melting Furnaces)	Adopted December 2021
Rule 4352 (Solid Fuel Fired Boilers, Steam Generators, Process Heaters)	Adopted December 2021
Rule 4401 (Steam-Enhanced Crude Oil Production Wells)	Adopted June 2023
Rule 4409 (Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities)	Adopted June 2023
Rule 4455 (Components at Petroleum Refineries, Gas	Adopted June 2023

[16] EPA. *Air Quality State Implementation Plans; Approvals and Promulgations: California; 1997 Annual Fine Particulate Matter Serious and Clean Air Act Section 189(d) Nonattainment Area Requirements; San Joaquin Valley, CA.* December 14, 2023. Retrieved from: https://www.federalregister.gov/documents/2023/12/14/2023-27088/air-quality-state-implementation-plans-approvals-and-promulgations-california-1997-annual-fine

Measure	Status
Liquid Processing Facilities, and Chemical Plants)	
Rule 4623 (Storage of Organic Liquids)	Adopted June 2023
Rule 4624 (Transfer of Organic Liquid)	Adopted June 2023
Rule 4402 (Crude Oil Production Sumps)	Adopted December 2023

4.2 Adopted Contingency Measures

District Rule 4601 (Architectural Coatings)

On April 16, 2020, the District Governing Board adopted amendments to District Rule 4601 (Architectural Coatings)[17] to include a contingency measure for the District's *2016 Plan for the 2008 8-Hour Ozone Standard* that, if triggered, would remove the exemption for coatings that are sold in containers with a volume of one liter (1.057 quarts) or less for specific categories of coatings. The removal of the small container exemption would only be triggered should EPA issue a final rulemaking that the Valley failed to meet a regulatory requirement for the 2008 ozone standard that necessitates implementation of a contingency measure. As calculated as part of the 2020 amendments to the Rule, if triggered, the contingency measure would reduce 0.65 tpd of VOC emissions for the 2008 8-hour ozone standard. As discussed in Section 5.12, the District is committing to amend the existing contingency measure in Rule 4601 to include a trigger for the 2015 ozone standard. For the 2015 ozone standard, the District applied the same percent reduction (7.5% reduction) to the inventory for architectural coatings, which would equate to a reduction of 0.33 tpd of VOC emissions.

Table 4 Emission Reductions from District Contingency Measure

Ozone Standard	VOC (tpd)
2008 8-hour	0.65
2015 8-hour	0.33

California Smog Check Contingency Measure

On October 26, 2023, the CARB Governing Board unanimously adopted the *California Smog Check Contingency Measure State Implementation Plan Revision*[18], as transmitted to EPA on November 13, 2023. The *California Smog Check Contingency Measure State Implementation Plan Revision* addresses SIP contingency measure requirements of the federal CAA for certain areas designated as nonattainment of the NAAQS within the State, including the San Joaquin Valley.

[17] SJVAPCD. *Adopt Proposed Amendments to Rule 4601 (Architectural Coatings).* April 16, 2020. Retrieved from: https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2020/April/final/11.pdf

[18] CARB. *California Smog Check Contingency Measure State Implementation Plan Revision. September 15, 2023.* Retrieved from: https://ww2.arb.ca.gov/sites/default/files/2023-09/Smog_Check_CM_SIP_Revision_Final.pdf

The Motor Vehicle Inspection and Maintenance Program (Smog Check Program) is a vehicle inspection and maintenance program administered by the California Bureau of Automotive Repair (BAR) that identifies vehicles with faulty emission control components. Smog Check Program inspections are required biennially as a part of the vehicle registration process and/or when a vehicle changes ownership or is registered for the first time in California. In 2017, Assembly Bill (AB) 1274 added Health and Safety Code (H&SC) § 44011(a)(4)(B)(ii) which allowed vehicles eight or less model-years old to be exempt from requirements for Smog Check Program inspections. In lieu of an inspection, this law requires seven and eight model-year old vehicles owners to pay an annual Smog Abatement Fee of $25, $21 of which goes to the Air Pollution Control Fund for use to incentivize clean vehicles and equipment through the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program). This law also specifies that this exemption is allowed unless CARB determines that exempting these vehicles prohibits the State from meeting SIP commitments.

To address contingency measure requirements, CARB's Smog Check Contingency Measure would remove exemptions within the current Smog Check Program. Should any air district within the state fail one of the four triggering events under the CAA, the measure would:

- Change the existing smog check inspection exemptions in the California Smog Check Program in the applicable nonattainment area(s);
- Apply to the California nonattainment area(s) and standard(s) for which the Triggering Event occurs, which includes the 1997, 2008, and 2015 8-hour ozone standards, and 1997, 2006, and 2012 PM2.5 standards for the San Joaquin Valley; and
- Be implemented within 30 days of the effective date of a U.S. EPA finding that a Triggering Event occurred.

If triggered, these additional vehicles would then be subject to Smog Check Program inspections based on the area in which the vehicle is registered (i.e., enhanced, basic, and change of ownership), resulting in additional emissions control equipment failures being identified and corrected, thereby reducing emissions that typically result when emissions control equipment is not performing as designed. CARB expects to achieve the following emission reductions in the Valley upon triggering this contingency measure for the 2008 and 2015 ozone NAAQS.

Table 5 Emission Reductions from CARB Contingency Measure

Ozone Standard	VOC (tpd)	NOx (tpd)
2008 8-hour	0.025	0.079
2015 8-hour	0.024	0.076

For further analysis, please see CARB's analysis in the *California Smog Check Contingency Measure State Implementation Plan Revision.*

5. REASONED JUSTIFICATION APPROACH

Section 4 of EPA's *Draft Guidance* outlines the procedures for preparation of a reasoned justification for providing contingency measures achieving less than OYW_P. These procedures involve the identification of existing and potential controls not already included in the applicable attainment plan and evaluation of the feasibility of such controls.

The following sections evaluate potential contingency measure opportunities for NOx and VOC, consistent with EPA's guidance for a reasoned justification approach in their *Draft Guidance*. Table 6, Table 7, and Table 8 below list all source categories in the San Joaquin Valley emissions inventory, as output by CEPAM v1.00. NOx and VOC emissions inventory data for each category is included for the years 2017, 2031, and 2037 (representing the base year of the most recent inventory, attainment year for 2008 8-hour ozone standard, and attainment year for 2015 8-hour ozone standard, respectively), reported in tons per day (tpd) and as percentages of the total.

Table 6 District CEPAM v1.00 Summer Average Inventories for 2017

2017 Summer Average					
MSC	**SUB CATEGORY**	**NOx Emissions (tpd)**	**% of NOx Inventory**	**VOC Emissions (tpd)**	**% of VOC Inventory**
10	ELECTRIC UTILITIES	2.84	1.23%	0.19	0.06%
20	COGENERATION	0.74	0.32%	0.43	0.13%
30	OIL AND GAS PRODUCTION (COMBUSTION)	2.75	1.20%	1.15	0.34%
40	PETROLEUM REFINING (COMBUSTION)	0.24	0.10%	0.04	0.01%
50	MANUFACTURING AND INDUSTRIAL	1.59	0.69%	0.23	0.07%
52	FOOD AND AGRICULTURAL PROCESSING	7.12	3.09%	0.82	0.24%
60	SERVICE AND COMMERCIAL	4.25	1.85%	0.54	0.16%
99	OTHER (FUEL COMBUSTION)	0.68	0.30%	0.04	0.01%
110	SEWAGE TREATMENT	0.05	0.02%	0.05	0.01%
120	LANDFILLS	0.23	0.10%	1.51	0.45%
130	INCINERATORS	0.04	0.02%	0.01	0.00%
140	SOIL REMEDIATION	0.00	0.00%	0.09	0.03%
199	OTHER (WASTE DISPOSAL)	0.01	0.00%	21.54	6.42%
210	LAUNDERING	0.00	0.00%	0.08	0.02%
220	DEGREASING	0.00	0.00%	1.79	0.53%
230	COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00%	8.84	2.63%
240	PRINTING	0.00	0.00%	5.61	1.67%
250	ADHESIVES AND SEALANTS	0.00	0.00%	0.62	0.18%
299	OTHER (CLEANING AND SURFACE COATINGS)	0.00	0.00%	7.03	2.09%
310	OIL AND GAS PRODUCTION	0.23	0.10%	11.46	3.41%
320	PETROLEUM REFINING	0.01	0.00%	0.44	0.13%
330	PETROLEUM MARKETING	0.06	0.03%	5.09	1.51%
399	OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00%	0.01	0.00%
410	CHEMICAL	0.32	0.14%	2.63	0.78%
420	FOOD AND AGRICULTURE	0.00	0.00%	12.76	3.80%
430	MINERAL PROCESSES	0.25	0.11%	0.22	0.06%
440	METAL PROCESSES	0.00	0.00%	0.17	0.05%
450	WOOD AND PAPER	0.00	0.00%	0.01	0.00%

2017 Summer Average					
MSC	**SUB CATEGORY**	**NOx Emissions (tpd)**	**% of NOx Inventory**	**VOC Emissions (tpd)**	**% of VOC Inventory**
460	GLASS AND RELATED PRODUCTS	3.08	1.34%	0.01	0.00%
470	ELECTRONICS	0.00	0.00%	0.00	0.00%
499	OTHER (INDUSTRIAL PROCESSES)	0.01	0.00%	0.49	0.15%
510	CONSUMER PRODUCTS	0.00	0.00%	25.78	7.68%
520	ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00%	6.74	2.01%
530	PESTICIDES/FERTILIZERS	0.00	0.00%	20.81	6.20%
540	ASPHALT PAVING / ROOFING	0.00	0.00%	1.04	0.31%
610	RESIDENTIAL FUEL COMBUSTION	3.15	1.37%	0.42	0.13%
620	FARMING OPERATIONS	0.00	0.00%	93.76	27.93%
630	CONSTRUCTION AND DEMOLITION	0.00	0.00%	0.00	0.00%
640	PAVED ROAD DUST	0.00	0.00%	0.00	0.00%
645	UNPAVED ROAD DUST	0.00	0.00%	0.00	0.00%
650	FUGITIVE WINDBLOWN DUST	0.00	0.00%	0.00	0.00%
660	FIRES	0.03	0.01%	0.13	0.04%
670	MANAGED BURNING AND DISPOSAL	4.65	2.02%	16.38	4.88%
690	COOKING	0.00	0.00%	0.40	0.12%
699	OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00%	0.00	0.00%
710	LIGHT DUTY PASSENGER (LDA)	6.47	2.81%	10.82	3.22%
722	LIGHT DUTY TRUCKS - 1 (LDT1)	1.73	0.75%	2.89	0.86%
723	LIGHT DUTY TRUCKS - 2 (LDT2)	5.20	2.26%	5.26	1.57%
724	MEDIUM DUTY TRUCKS (MDV)	6.86	2.98%	6.42	1.91%
725	LIGHT HEAVY DUTY TRUCKS - 1 (LHDT1)	7.94	3.45%	1.75	0.52%
726	LIGHT HEAVY DUTY TRUCKS - 2 (LHDT2)	2.01	0.88%	0.32	0.09%
727	MEDIUM HEAVY DUTY TRUCKS (MHDT)	9.22	4.01%	0.77	0.23%
728	HEAVY HEAVY DUTY TRUCKS (HHDT)	56.65	24.63%	2.19	0.65%
750	MOTORCYCLES (MCY)	0.29	0.13%	2.55	0.76%
775	BUSES	1.50	0.65%	0.14	0.04%
780	MOTOR HOMES (MH)	0.26	0.11%	0.16	0.05%
810	AIRCRAFT	2.53	1.10%	3.01	0.90%
820	TRAINS	13.12	5.70%	0.61	0.18%
833	OCEAN GOING VESSELS	0.05	0.02%	0.00	0.00%
835	COMMERCIAL HARBOR CRAFT	0.06	0.03%	0.00	0.00%
840	RECREATIONAL BOATS	3.42	1.49%	20.37	6.07%
850	OFF-ROAD RECREATIONAL VEHICLES	0.08	0.03%	2.35	0.70%
860	OFF-ROAD EQUIPMENT	24.01	10.44%	14.95	4.45%
861	OFF-ROAD EQUIPMENT (PERP)	5.87	2.55%	0.49	0.15%
870	FARM EQUIPMENT	50.45	21.93%	9.03	2.69%
890	FUEL STORAGE AND HANDLING	0.00	0.00%	2.28	0.68%

Table 7 District CEPAM v1.00 Summer Average Inventories for 2031

2031 Summer Aerage					
MSC	**SUB CATEGORY**	**NOx Emissions (tpd)**	**% of NOx Inventory**	**VOC Emissions (tpd)**	**% of VOC Inventory**
10	ELECTRIC UTILITIES	2.23	2.29%	0.12	0.04%
20	COGENERATION	0.73	0.75%	0.42	0.14%
30	OIL AND GAS PRODUCTION (COMBUSTION)	1.38	1.41%	0.76	0.25%
40	PETROLEUM REFINING (COMBUSTION)	0.16	0.16%	0.04	0.01%

2031 Summer Average					
MSC	**SUB CATEGORY**	**NOx Emissions (tpd)**	**% of NOx Inventory**	**VOC Emissions (tpd)**	**% of VOC Inventory**
50	MANUFACTURING AND INDUSTRIAL	1.46	1.49%	0.19	0.06%
52	FOOD AND AGRICULTURAL PROCESSING	3.74	3.84%	0.62	0.21%
60	SERVICE AND COMMERCIAL	3.66	3.75%	0.54	0.18%
99	OTHER (FUEL COMBUSTION)	0.56	0.58%	0.03	0.01%
110	SEWAGE TREATMENT	0.04	0.04%	0.05	0.02%
120	LANDFILLS	0.16	0.17%	1.69	0.56%
130	INCINERATORS	0.04	0.04%	0.01	0.00%
140	SOIL REMEDIATION	0.00	0.00%	0.10	0.03%
199	OTHER (WASTE DISPOSAL)	0.01	0.01%	24.56	8.17%
210	LAUNDERING	0.00	0.00%	0.09	0.03%
220	DEGREASING	0.00	0.00%	2.08	0.69%
230	COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00%	10.63	3.53%
240	PRINTING	0.00	0.00%	5.40	1.80%
250	ADHESIVES AND SEALANTS	0.00	0.00%	0.63	0.21%
299	OTHER (CLEANING AND SURFACE COATINGS)	0.00	0.00%	8.15	2.71%
310	OIL AND GAS PRODUCTION	0.09	0.09%	7.55	2.51%
320	PETROLEUM REFINING	0.01	0.01%	0.44	0.15%
330	PETROLEUM MARKETING	0.05	0.05%	3.82	1.27%
399	OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00%	0.01	0.00%
410	CHEMICAL	0.34	0.35%	2.78	0.92%
420	FOOD AND AGRICULTURE	0.00	0.00%	15.17	5.04%
430	MINERAL PROCESSES	0.24	0.24%	0.20	0.07%
440	METAL PROCESSES	0.00	0.00%	0.21	0.07%
450	WOOD AND PAPER	0.00	0.00%	0.01	0.00%
460	GLASS AND RELATED PRODUCTS	1.75	1.79%	0.01	0.00%
470	ELECTRONICS	0.00	0.00%	0.00	0.00%
499	OTHER (INDUSTRIAL PROCESSES)	0.01	0.01%	0.56	0.19%
510	CONSUMER PRODUCTS	0.00	0.00%	30.93	10.29%
520	ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00%	7.69	2.56%
530	PESTICIDES/FERTILIZERS	0.00	0.00%	18.46	6.14%
540	ASPHALT PAVING / ROOFING	0.00	0.00%	1.31	0.44%
610	RESIDENTIAL FUEL COMBUSTION	2.57	2.64%	0.41	0.14%
620	FARMING OPERATIONS	0.00	0.00%	93.37	31.05%
630	CONSTRUCTION AND DEMOLITION	0.00	0.00%	0.00	0.00%
640	PAVED ROAD DUST	0.00	0.00%	0.00	0.00%
645	UNPAVED ROAD DUST	0.00	0.00%	0.00	0.00%
650	FUGITIVE WINDBLOWN DUST	0.00	0.00%	0.00	0.00%
660	FIRES	0.04	0.04%	0.15	0.05%
670	MANAGED BURNING AND DISPOSAL	1.34	1.37%	14.80	4.92%
690	COOKING	0.00	0.00%	0.45	0.15%
699	OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00%	0.00	0.00%
710	LIGHT DUTY PASSENGER (LDA)	1.87	1.91%	4.86	1.62%
722	LIGHT DUTY TRUCKS - 1 (LDT1)	0.34	0.34%	0.84	0.28%
723	LIGHT DUTY TRUCKS - 2 (LDT2)	1.46	1.49%	2.70	0.90%
724	MEDIUM DUTY TRUCKS (MDV)	1.45	1.48%	2.91	0.97%
725	LIGHT HEAVY DUTY TRUCKS - 1 (LHDT1)	2.27	2.33%	0.69	0.23%
726	LIGHT HEAVY DUTY TRUCKS - 2 (LHDT2)	0.72	0.73%	0.16	0.05%

2031 Summer Average					
MSC	**SUB CATEGORY**	**NOx Emissions (tpd)**	**% of NOx Inventory**	**VOC Emissions (tpd)**	**% of VOC Inventory**
727	MEDIUM HEAVY DUTY TRUCKS (MHDT)	1.30	1.34%	0.07	0.02%
728	HEAVY HEAVY DUTY TRUCKS (HHDT)	9.53	9.78%	0.66	0.22%
750	MOTORCYCLES (MCY)	0.17	0.17%	1.90	0.63%
775	BUSES	0.37	0.38%	0.05	0.02%
780	MOTOR HOMES (MH)	0.12	0.12%	0.03	0.01%
810	AIRCRAFT	4.59	4.71%	3.91	1.30%
820	TRAINS	16.58	17.01%	0.67	0.22%
833	OCEAN GOING VESSELS	0.05	0.06%	0.00	0.00%
835	COMMERCIAL HARBOR CRAFT	0.03	0.03%	0.00	0.00%
840	RECREATIONAL BOATS	2.99	3.06%	11.19	3.72%
850	OFF-ROAD RECREATIONAL VEHICLES	0.10	0.10%	1.33	0.44%
860	OFF-ROAD EQUIPMENT	11.18	11.47%	7.85	2.61%
861	OFF-ROAD EQUIPMENT (PERP)	2.16	2.21%	0.30	0.10%
870	FARM EQUIPMENT	19.64	20.15%	4.28	1.42%
890	FUEL STORAGE AND HANDLING	0.00	0.00%	1.85	0.61%

Table 8 District CEPAM v1.00 Summer Average Inventories for 2037

2037 Summer Average					
MSC	**SUB CATEGORY**	**NOx Emissions (tpd)**	**% of NOx Inventory**	**VOC Emissions (tpd)**	**% of VOC Inventory**
10	ELECTRIC UTILITIES	2.16	2.65%	0.10	0.03%
20	COGENERATION	0.85	1.04%	0.49	0.16%
30	OIL AND GAS PRODUCTION (COMBUSTION)	1.15	1.41%	0.64	0.21%
40	PETROLEUM REFINING (COMBUSTION)	0.16	0.19%	0.04	0.01%
50	MANUFACTURING AND INDUSTRIAL	1.54	1.89%	0.20	0.07%
52	FOOD AND AGRICULTURAL PROCESSING	3.42	4.20%	0.63	0.21%
60	SERVICE AND COMMERCIAL	3.59	4.40%	0.55	0.18%
99	OTHER (FUEL COMBUSTION)	0.56	0.69%	0.03	0.01%
110	SEWAGE TREATMENT	0.04	0.05%	0.06	0.02%
120	LANDFILLS	0.17	0.21%	1.78	0.59%
130	INCINERATORS	0.04	0.05%	0.01	0.00%
140	SOIL REMEDIATION	0.00	0.00%	0.10	0.03%
199	OTHER (WASTE DISPOSAL)	0.01	0.01%	26.92	8.96%
210	LAUNDERING	0.00	0.00%	0.09	0.03%
220	DEGREASING	0.00	0.00%	2.32	0.77%
230	COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00%	11.94	3.97%
240	PRINTING	0.00	0.00%	5.66	1.88%
250	ADHESIVES AND SEALANTS	0.00	0.00%	0.64	0.21%
299	OTHER (CLEANING AND SURFACE COATINGS)	0.00	0.00%	8.79	2.93%
310	OIL AND GAS PRODUCTION	0.07	0.09%	6.33	2.11%
320	PETROLEUM REFINING	0.01	0.01%	0.44	0.15%
330	PETROLEUM MARKETING	0.05	0.06%	3.78	1.26%
399	OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00%	0.01	0.00%
410	CHEMICAL	0.38	0.46%	3.08	1.03%
420	FOOD AND AGRICULTURE	0.00	0.00%	17.11	5.69%
430	MINERAL PROCESSES	0.25	0.30%	0.21	0.07%
440	METAL PROCESSES	0.00	0.00%	0.24	0.08%

2037 Summer Average					
MSC	**SUB CATEGORY**	**NOx Emissions (tpd)**	**% of NOx Inventory**	**VOC Emissions (tpd)**	**% of VOC Inventory**
450	WOOD AND PAPER	0.00	0.00%	0.01	0.00%
460	GLASS AND RELATED PRODUCTS	1.75	2.14%	0.01	0.00%
470	ELECTRONICS	0.00	0.00%	0.00	0.00%
499	OTHER (INDUSTRIAL PROCESSES)	0.01	0.01%	0.62	0.21%
510	CONSUMER PRODUCTS	0.00	0.00%	33.61	11.18%
520	ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00%	8.07	2.69%
530	PESTICIDES/FERTILIZERS	0.00	0.00%	18.19	6.05%
540	ASPHALT PAVING / ROOFING	0.00	0.00%	1.39	0.46%
610	RESIDENTIAL FUEL COMBUSTION	2.36	2.89%	0.41	0.14%
620	FARMING OPERATIONS	0.00	0.00%	93.31	31.05%
630	CONSTRUCTION AND DEMOLITION	0.00	0.00%	0.00	0.00%
640	PAVED ROAD DUST	0.00	0.00%	0.00	0.00%
645	UNPAVED ROAD DUST	0.00	0.00%	0.00	0.00%
650	FUGITIVE WINDBLOWN DUST	0.00	0.00%	0.00	0.00%
660	FIRES	0.04	0.05%	0.16	0.05%
670	MANAGED BURNING AND DISPOSAL	1.33	1.63%	14.80	4.92%
690	COOKING	0.00	0.00%	0.47	0.16%
699	OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00%	0.00	0.00%
710	LIGHT DUTY PASSENGER (LDA)	1.05	1.28%	3.62	1.21%
722	LIGHT DUTY TRUCKS - 1 (LDT1)	0.15	0.19%	0.51	0.17%
723	LIGHT DUTY TRUCKS - 2 (LDT2)	0.96	1.18%	2.24	0.75%
724	MEDIUM DUTY TRUCKS (MDV)	0.88	1.08%	2.23	0.74%
725	LIGHT HEAVY DUTY TRUCKS - 1 (LHDT1)	1.17	1.43%	0.47	0.16%
726	LIGHT HEAVY DUTY TRUCKS - 2 (LHDT2)	0.44	0.54%	0.11	0.04%
727	MEDIUM HEAVY DUTY TRUCKS (MHDT)	0.84	1.03%	0.05	0.02%
728	HEAVY HEAVY DUTY TRUCKS (HHDT)	9.12	11.18%	0.72	0.24%
750	MOTORCYCLES (MCY)	0.15	0.19%	1.79	0.60%
775	BUSES	0.20	0.24%	0.04	0.01%
780	MOTOR HOMES (MH)	0.09	0.11%	0.02	0.01%
810	AIRCRAFT	4.59	5.63%	3.93	1.31%
820	TRAINS	14.03	17.20%	0.55	0.18%
833	OCEAN GOING VESSELS	0.04	0.05%	0.00	0.00%
835	COMMERCIAL HARBOR CRAFT	0.03	0.03%	0.00	0.00%
840	RECREATIONAL BOATS	2.91	3.57%	8.94	2.97%
850	OFF-ROAD RECREATIONAL VEHICLES	0.10	0.13%	0.98	0.33%
860	OFF-ROAD EQUIPMENT	9.40	11.52%	5.60	1.86%
861	OFF-ROAD EQUIPMENT (PERP)	2.10	2.58%	0.33	0.11%
870	FARM EQUIPMENT	13.40	16.42%	3.20	1.06%
890	FUEL STORAGE AND HANDLING	0.00	0.00%	1.94	0.64%

Categories 710 through 890, (as reported by CEPAM) comprise nearly 80% of the NO_X emissions inventory in the San Joaquin Valley. Mobile sources generally fall under the jurisdiction of the federal government to establish controls, unless the state qualifies for and has obtained a waiver, and thus typically are subject to particular regulatory constraints and require lead times in excess of two years. The dominance of mobile sources for NO_X emissions significantly limits the ability for the District to achieve OYW_P of NO_X reductions from contingency measures.

As part of this evaluation, the District and CARB analyzed contingency measure opportunities for each source category. This evaluation included analysis of technological and economic feasibility of potential measures. Each measure was evaluated on whether it could be implemented within 60 days of being triggered and achieve the necessary reductions within 1-2 years of being triggered. Additionally, the technological feasibility of each option was considered to assess whether the measure would be technologically feasible to implement. More stringent requirements may be unavailable or economically infeasible to implement, especially in the time frame required for contingency measure implementation. Notably, as part of the District's rule analyses conducted as part of the recent *2018 PM2.5 Plan*, *2022 Ozone Plan*, and *2023 Initial SIP Elements for the 2012 Annual PM2.5 Standard*[19], comparisons to analogous rules from other regions were completed, demonstrating the stringency of the District's rules. The District is referring to these comparisons as a part of the below analyses, as allowed under the *Draft Guidance*.

[19] SJVAPCD. *Initial SIP Requirements for the 2012 Annual PM2.5 Standard.* October 19, 2023. Retrieved from: https://ww2.valleyair.org/media/vzbbnhkg/00-final-adopted-initial-sip-requirements-for-the-2012-annual-pm25-standard.pdf

5.1 Fuel Combustion

		2017	2031	2037	2017	2031	2037
MSC	**SUB CATEGORY**	**NOx (tpd)**	**NOx (tpd)**	**NOx (tpd)**	**VOC (tpd)**	**VOC (tpd)**	**VOC (tpd)**
10	ELECTRIC UTILITIES	2.84	2.23	2.16	0.19	0.12	0.10
20	COGENERATION	0.74	0.73	0.85	0.43	0.42	0.49
30	OIL AND GAS PRODUCTION (COMBUSTION)	2.75	1.38	1.15	1.15	0.76	0.64
40	PETROLEUM REFINING (COMBUSTION)	0.24	0.16	0.16	0.04	0.04	0.04
50	MANUFACTURING AND INDUSTRIAL	1.59	1.46	1.54	0.23	0.19	0.20
52	FOOD AND AGRICULTURAL PROCESSING	7.12	3.74	3.42	0.82	0.62	0.63
60	SERVICE AND COMMERCIAL	4.25	3.66	3.59	0.54	0.54	0.55
99	OTHER (FUEL COMBUSTION)	0.68	0.56	0.56	0.04	0.03	0.03
610	RESIDENTIAL FUEL COMBUSTION	3.15	2.57	2.36	0.42	0.41	0.41
	Total	***23.36***	***16.49***	***15.79***	***3.86***	***3.13***	***3.09***

This category includes turbines, boilers, steam generators, process heaters, a large solid waste combustor, internal combustion engines, central fan-type furnaces primarily fueled by Public Utility Commission (PUC) quality natural gas; liquid fuel e.g. diesel, is used in the internal combustion engines but is rare and predominately held in reserve for emergency use for the other units. These units are used to generate electricity, produce hot water, produce steam, transfer heat from combustion gases to liquid or process streams, and condition living and office spaces. These units emit VOC and NOx and can be found at facilities representing a wide range of industries including, but not limited, to electrical utilities, cogeneration operations, oil and gas production, petroleum refining, manufacturing and industrial processes, food and agricultural processing, hospitals, hotels, service and commercial facilities, residential housing and commercial office spaces. These units have significant variability in technology, size, use and age of equipment, as well as variability in potential controls for various pollutants.

The District has evaluated opportunities for contingency measures within the fuel combustion category and did not identify a feasible measure. The District has recently amended a number of fuel combustion rules to incorporate more stringent regulations that go beyond state and federal regulations. In addition, the District and CARB are evaluating the technological and economic feasibility of implementing zero NOx standards for residential appliances. The District's analysis is provided below:

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4306 and 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters >5 MMBtu/hr)	Refer to the District's analysis in the District's *PM2.5 Contingency Measure SIP Revision* for Emissions from Oil and Gas Production Combustion Equipment.	The District concludes that this source category is not an appropriate contingency measure due to the following reasons: • Analyses provided by the District shows that further controls are either technologically infeasible, or not cost effective • District is already requiring the most stringent feasible controls, exceeding MSM requirements • Significant time is needed to plan and prepare for the installation of equipment including budgeting appropriate funds for large projects (2-3 years), which is incompatible with a contingency trigger • Operations are in the process of investing in and installing technologies to meet recently amended rule limits • A contingency trigger is incompatible with the technologies involved in reducing emissions from this category, as operations would need time to plan and install technology and reductions would not be achieved within one to two years of a contingency trigger Rules 4306 and 4320 meet or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	-
Rule 4307 (Boilers, Steam Generators and Process Heaters 2 – 5 MMBtu/hr)	Require use of technologies such as SCRs, ultra-low NOx burners, and EMx.	No; As stated in Appendix C of the *2022 Ozone Plan*, the potential emission reduction opportunities are not cost effective.[20] Various control technologies that were further evaluated for their potential to reduce emissions as a contingency measure include SCRs, ultra-low NOx burner, and EMx. • Retrofitting a range of SCR options has annualized costs ranging from $2,458,692 to $17,142,547. These options range from $126,420 to $815,897 per ton of emissions reduced	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days

[20] SJVAPCD. *Appendix C Stationary and Area Source Evaluations*. (December 15, 2022). Retrieved from: https://ww2.valleyair.org/media/drco33tb/12-appendix-c-stationary.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		• Retrofitting a range of ultra-low NOx burner options has an annualized costs as high as $4,942,190, which would have a cost effectiveness of $322,200 per ton of emissions reduced • Replacement of an older unit with a new boiler meeting the 9 ppmv NOx unit has an annualized costs up to $11,243,043, with a cost effectiveness of $732,976 per ton of emissions reduced • The District researched post-combustion controls such as EMx, the second generation of the SCONOx technology that reduces NOx, SOx, CO, and VOC emissions. Per EmeraChem, manufacturer/vendor of the technology, this technology has not been achieved in practice for natural gas fired boilers. SCONOx and EMx systems have only been used by power plants for the control of turbine emissions. The cost of an EMx system would be anywhere from $3 to $5 million, or even up to $8 million in some cases for large power plant installations. Moreover, an EMx system is ideal for a new installation, but becomes extremely challenging and sometimes nearly impossible to retrofit to an existing unit. In fact, cost-effectiveness analyses conducted by the District for the installation of SCONOx/EMx units on large power plant turbine installations within the Valley have shown that this technology is not cost-effective. Given the high cost-effectiveness demonstrated for turbines and lack of demonstrated practice with boilers, this technology is not feasible or cost-effective for reducing emissions from this category. While cost-effectiveness was further reviewed, there are a number of additional feasibility considerations and complexities that potentially render the utilization of the above technologies as infeasible, including physical constraints, control effectiveness for the wide variety of potential applications, and other considerations. Rule 4307 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls	and achieve reductions within one to two years.

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4308 (Boilers, Steam Generators and Process Heaters 0.075 to less than 2.0 MMBtu/hr)	Require use of technologies such as SCRs, ultra-low NOx burners, and EMx.	No; As stated in Appendix C of the *2022 Ozone Plan*, the technologies involved with reducing emissions from this source category are not cost effective and this source category is not suitable for a contingency measure. These potential controls are also not cost effective as implementation of: • Selective Catalytic Reduction (SCR) systems reduce NOx emissions by 15 ppmv @ 3% O_2 at a cost effectiveness of at least $216,858/ton of emissions reduced • Ultra-low NOx burner system reduces NOx emissions from 20 ppmv @ 3% O2 to 9 ppmv @ 3% O_2 at a cost effectiveness of $91,746/ton of emissions reduced • EMx systems, as explained under Rule 4307, are not cost effective and most likely not technologically feasible for these small units While cost-effectiveness was further reviewed, there are a number of additional feasibility considerations and complexities that potentially render the utilization of the above technologies as infeasible, including physical constraints, control effectiveness for the wide variety of potential applications, and other considerations. Rule 4308 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. All units subject to 4308 have to be certified by the manufacturer prior to sale. Manufacturers would need long lead time to design new units and have them tested by independent third party laboratories, and finally certified by the Air District. Manufacturers would also need time to produce the amount of units needed Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4352 (Solid Fuel Fired Boilers, Steam Generators, and Process Heaters)	Require use of additional or alternative control technologies beyond existing stringent controls.	No; The District recently adopted amendments to Rule 4352 in December 2021 after going through a robust public process of a year and a half. Appendix C of the 2021 Rule 4352 Staff Report evaluated alternative control technologies applicable to sources	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		subject to Rule 4352.[21] District analysis found that all alternative control technology that could reduce emissions further require technology that has prohibitively high capital costs and is not cost effective. In addition, many of these technologies have not been implemented at facilities subject to Rule 4352; therefore, these control technologies are not commercially tested and proven. Rule 4352 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Additionally, operations are currently investing in control technologies to meet recently amended rule limits.
Rule 4702 (Internal Combustion Engines)	Require use of additional or alternative control technologies beyond existing stringent controls.	Economically and Technologically infeasible; The District recently adopted amendments to Rule 4702 per commitments in the *2018 PM2.5 Plan* in August 2021 after going through a robust public process. The 2021 Rule 4702 staff report included evaluations of additional control technology including SCRs, electrification and solar power, and other control technologies.[22] • SCR systems require significant capital, up to $300,000 to purchase a single unit and up to $60,000 of annual operation and maintenance costs • Introducing an electric engine/solar system has a cost effectiveness ranging from $150,000 to $260,000 per ton of emissions reduced In addition to cost effectiveness, there are a number of additional feasibility considerations and complexities that potentially render the utilization of the above technologies as infeasible, including physical constraints, control effectiveness variation for the wide range of potential applications, and other considerations. Rule 4702 meets or	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Additionally, operations are currently investing in control technologies to meet recently amended rule limits.

[21] SJVAPCD. *Adopt Proposed Amendments to Rule 4352 (Solid Fuel Fired Boilers, Steam Generators, and Process Heaters).* (December 16, 2021). Retrieved from: https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2021/December/final/12.pdf
[22] SJVAPCD. *Proposed Amendments to Rule 4702 (Internal Combustion Engine)*. (July 20, 2021). Retrieved from: http://www.valleyair.org/workshops/postings/2021/08-19-21-r4702/DraftStaffReport.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4703 (Stationary Gas Turbines)	Require use of additional or alternative control technologies beyond existing stringent controls.	No; As stated in Appendix C of the *2022 Ozone Plan,* the District has found that further control from sources subject to Rule 4703 is not currently feasible or cost effective. • Retrofitting a SCR system on units producing less than 3 megawatts (to comply with 2 ppmvd NOx @ 15% O_2) incurs an estimated $439,278 of annual costs, which costs $348,633 per ton of emissions reduced. • Retrofitting a SCR system on units producing between 3 to 10 megawatts (to comply with 2 ppmvd NOx @ 15% O_2) incurs an estimated $716,998 of annual costs, which costs $770,965 per ton of emissions reduced. • Retrofitting a SCR system on units producing greater than 10 megawatts (simple cycle unit to comply with 2.5 ppmvd NOx @ 15% O_2) incurs an estimated $1,737,092 of annual costs, which costs $232,231 per ton of emissions reduced. • Retrofitting SCRs on units producing greater than 10 megawatts (combined cycle to comply with 2 ppmvd NOx @ 15% O_2) incurs an estimated $2,785,635 of annual costs, which costs $141,116 per ton of emissions reduced. While cost-effectiveness was further reviewed, there are a number of additional feasibility considerations and complexities that potentially render the utilization of the above technologies as infeasible, including physical constraints, control effectiveness for the wide variety of potential applications, and other considerations. Rule 4703 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4905 (Natural Gas – Fired, Fan Type Residential Central Furnace)	Adopt electrification requirements earlier than CARB measure.	No; CARB currently has an existing commitment that will require electrification and achieve emission reductions statewide starting in 2030. The District evaluated opportunities to advance the implementation timeframe of electrification requirements in the Valley. Manufacturers need time to ramp up production of zero-emission technologies to meet the expected demand. Further, any such standard would have to be developed in collaboration with energy and building code regulators and the District would need to ensure it was consistent with all State and local efforts. The District would need to work carefully with communities to consider any housing cost or affordability impacts. The District would need to engage with community-based organizations and other key stakeholders to incorporate equity considerations for low-income and environmental justice communities where feasible. Given the need for a measure with a contingency trigger and potentially short-term reductions, the long lead time associated with this potential measure, the attrition-based nature of implementation, and the existing CARB measure in place that would conflict with a local contingency measure, this measure is deemed infeasible. In an effort to identify potential emission reduction opportunities, the District's *2022 Ozone Plan* includes a further study commitment to evaluate current and upcoming work from CARB and other agencies related to reducing emissions from residential and commercial combustion sources, and evaluate the feasibility of implementing zero emission or low-NOx requirements for these sources in the Valley. Through this effort, the District will also evaluate opportunities to advocate for funding under the Inflation Reduction Act, Bipartisan Infrastructure Law, and other funding sources, which are prioritizing funding opportunities for electrification of appliances to reduce greenhouse gas emissions.	No; This measure would require a very robust public process that would take at least two years (or more). Manufacturers would require long lead time to design and produce the amount of units needed. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		Rule 4905 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	

5.2 Waste Disposal

		2017	2031	2037	2017	2031	2037
MSC	SUB CATEGORY	NOx (tpd)	NOx (tpd)	NOx (tpd)	VOC (tpd)	VOC (tpd)	VOC (tpd)
110	SEWAGE TREATMENT	0.05	0.04	0.04	0.05	0.05	0.06
120	LANDFILLS	0.23	0.16	0.17	1.51	1.69	1.78
130	INCINERATORS	0.04	0.04	0.04	0.01	0.01	0.01
140	SOIL REMEDIATION	0.00	0.00	0.00	0.09	0.10	0.10
199	OTHER (WASTE DISPOSAL)	0.01	0.01	0.01	21.54	24.56	26.92
	Totals	***0.33***	***0.25***	***0.26***	***23.20***	***26.41***	***28.87***

This category includes sewage treatment, landfills, incinerators, flares, soil remediation, composting, and other miscellaneous categories. These units emit NOx and VOCs and are primarily found at landfills, public owned treatment works, locations with contaminated soils, oil and gas operations, refineries, and agricultural operations. Flare emissions under the waste disposal source categories are predominately generated by landfill flares. Smaller quantities of emissions are generated by sewage treatment and incineration flares combusting digester gas, process gas, waste gas, and natural gas. Composting emissions are generated by the decomposition of organic materials. Incinerator emissions are primarily generated by waste disposal activities in the industrial sector and involve combustion of distilled oil, liquefied petroleum gas, natural gas, pathological waste and waste gas. These units have significant variability in technology, size, use and age of equipment, as well as variability in potential controls for various pollutants.

The District has evaluated opportunities for contingency measures within the waste disposal category and did not identify a feasible measure. The District has recently amended Rule 4311 (Flares) within the waste disposal category to incorporate more stringent regulations that go beyond state and federal regulations. The District's analysis is provided below:

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4302 (Incinerator Burning)	None; no technologies currently available to achieve lower limits.	Technologically infeasible; as stated in Appendix C of the *2022 Ozone Plan*, the District has already adopted the most stringent requirements feasible, and no further opportunities have been identified. Additionally, the District compared Rule 4302 to SCAQMD Rule 473, SMAQMD Rule 408, and VCAPCD Rule 57 and found Rule 4302 is as stringent as other air district analogous rules. The District did not identify any analogous rules from other air districts such as BAAQMD. Rule 4302 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4311 (Flares)	None; no technologies currently available to achieve lower limits.	No; The District recently adopted amendments to Rule 4311 in December 2020 after going through a robust public process of over 3 years. As stated in the Appendix B of the 2020 Rule 4311 staff report, the control level implemented in the recent rule amendment (December 2020) required substantial costs and the emission levels selected are the most stringent levels.[23] The District did not identify any new level of control more stringent than what is currently required under Rule 4311. The 2020 amendments require operators to install the cleanest ultra-low NOx flaring technology available. Further reductions from this source category would require control technologies with greater complexity and costs, which have yet to be identified and would be less cost effective than the previous rule amendment. Notably, the most recent amendments to these rules required over 3 years of analysis and public engagement.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

[23] SJVAPCD. *Adopt Proposed Amendments to Rule 4311 (Flares).* (December 17, 2020). Retrieved from: https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2020/December/final/12.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		Additionally, operations are still in the process of complying with the recent rule amendments, and imposing more stringent requirements on these facilities at this time would be infeasible. Rule 4311 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4565 (Biosolids, Animal Manure, and Poultry Litter Operations)	See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4566 (Organic Material Composting Operations)	None; no technologies currently available to achieve further reductions.	Technologically infeasible; as stated in Appendix C of the *2022 Ozone Plan*, the District currently has the most stringent rule for this source category in the state and cannot identify additional opportunities for emission reductions. Additionally, the District compared Rule 4566 to SCAQMD Rule 1133.3 and found that Rule 4566 is as stringent as SCAQMD's analogous rule. The District did not identify any analogous rules from other air district such as Bay Area Air Quality Management District (BAAQMD), Sacramento Metro Air Quality Management District (SMAQMD), and VCAPCD. Rule 4566 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4642 (Solid Waste Disposal Sites)	Lower leak threshold. Increase gas collection	Technologically infeasible; As demonstrated in the *2022 Ozone Plan*, Rule 4642 currently has in place the most stringent measures feasible to implement in the Valley. Rule 4642 meets or exceeds	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
	control device destruction efficiency.	federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category. Rule 4642 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4651 (Soil Decontamination Operations)	Lower the VOC threshold for triggering the handling of contaminated soil requirements.	Technologically infeasible; as stated in the District's *2022 Ozone Plan*, Rule 4651 continues to implement RACT levels of control. In addition, the VOC emissions inventory for this source category is 0.10 tpd and does not present significant opportunities for additional emission reductions from a contingency measure. Rule 4651 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

5.3 Cleaning and Surface Coating Inventory

		2017	2031	2037	2017	2031	2037
MSC	**SUB CATEGORY**	**NOx (tpd)**	**NOx (tpd)**	**NOx (tpd)**	**VOC (tpd)**	**VOC (tpd)**	**VOC (tpd)**
210	LAUNDERING	0.00	0.00	0.00	0.08	0.09	0.09
220	DEGREASING	0.00	0.00	0.00	1.79	2.08	2.32
230	COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00	0.00	8.84	10.63	11.94
240	PRINTING	0.00	0.00	0.00	5.61	5.40	5.66
250	ADHESIVES AND SEALANTS	0.00	0.00	0.00	0.62	0.63	0.64
299	OTHER (CLEANING AND SURFACE COATINGS)	0.00	0.00	0.00	7.03	8.15	8.79
	Totals	***0.00***	***0.00***	***0.00***	***23.97***	***26.98***	***29.44***

This category includes inks, solvents, coatings, adhesives, surface preparation products, and sealants. These products emit VOCs and are primarily used at dry cleaners, automotive assembly and repair operations, cardboard box and container manufacturing operations, printing operations, and a variety of coatings operations including; automotive, paper, plastics, metal parts, pleasure craft, aerospace, and wood. These operations have significant variability in technology, size, as well as variability in potential controls for VOCs.

The District has implemented a contingency measure in Rule 4601 to achieve contingency measure emission reductions from the cleaning and surface coating category. This contingency measure involves removing the small container exemption from the rule should the measure be triggered. The District has analyzed all other contingency measure opportunities for rules related to cleaning and surface coatings, as is provided below:

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4602 (Motor Vehicle Assembly Coatings)	There are currently no motor vehicle assembly coating facilities operating in the Valley, and there are no opportunities for emission reductions from Rule 4602. Therefore, this source category is not suitable for a contingency measure.	-	-

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4603 (Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts)	See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4604 (Can and Coil Coating Operations)	See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4605 (Aerospace Assembly and Component Coating Operations)	See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4606 (Wood Products and Flat Wood Paneling Products Coating Operations)	Lower VOC limits from surface coating operations or lower VOC limits for organic solvents used in cleaning operations. Increase the capture and control efficiency of the VOC emission control device.	Technologically infeasible; As demonstrated in the *2022 Ozone Plan*, Rule 4606 currently has in place the most stringent measures feasible to implement in the Valley. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category. Rule 4606 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to develop new products with lower VOC content. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Additionally, operations are currently investing in control technologies to meet recently amended rule limits.
Rule 4607 (Graphic Arts and Paper, Film, Foil and Fabric Coatings)	Lower VOC limits from coatings, inks, adhesives or lower VOC limits for organic solvents used in cleaning operations. Increase the capture and control	Technologically infeasible; As demonstrated above, Rule 4607 currently has in place the most stringent measures feasible to implement in the Valley. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to develop new products with lower VOC content. Operations would

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
	efficiency of the VOC emission control device.	Rule 4607 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Additionally, operations are currently investing in control technologies to meet recently amended rule limits.
Rule 4612 (Motor Vehicle and Mobile Equipment Coating Operations)	Lower VOC limits from coatings or lower VOC limits for organic solvents used in cleaning operations. Increase the capture and control efficiency of the VOC emission control device.	Technologically infeasible; As in the *2022 Ozone Plan*, Rule 4612 currently has in place the most stringent measures feasible to implement in the Valley. Therefore, The District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category. Rule 4612 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to develop new products with lower VOC content. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Additionally, operations are currently investing in control technologies to meet recently amended rule limits.
Rule 4653 (Adhesives and Sealants)	See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4661 (Organic Solvents)	Lower VOC limits from solvents or lower VOC limits for organic solvents used in cleaning operations. Increase the capture and control efficiency of the VOC emission control device.	Technologically infeasible; As demonstrated in the *2022 Ozone Plan*, Rule 4661 implements the most stringent measures feasible to implement in the Valley. Rule 4661 requires facilities that exceed the monthly VOC limit to install a VOC control device that has a control efficiency greater than 95%, and the District did not identify any additional emission reduction opportunities.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to develop new products with lower VOC content. Operations would need long lead time to design, plan, obtain

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		Rule 4661 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4662 (Organic Solvent Degreasing Operations)	Lower VOC limits from adhesives and sealants or lower VOC limits for organic solvents used in cleaning operations. Increase the capture and control efficiency of the VOC emission control device.	Technologically infeasible; As demonstrated in the *2022 Ozone Plan*, Rule 4662 implements the most stringent measures feasible to implement in the Valley. Rule 4662 already requires solvent degreasing operations to significantly limit VOC emissions through the use of low VOC (25 g/L) solvents or install an emission control device that controls VOC emissions by 85%. These limits and requirements are equivalent to other District rules compared to in the *2022 Ozone Plan*. No additional emission reduction opportunities exist at this time. Rule 4662 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to develop new products with lower VOC content. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4663 (Organic Solvent Cleaning, Storage, and Disposal)	See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4672 (Petroleum Solvent Dry Cleaning Operations)	Increase the control efficiency requirement for petroleum solvent vapors.	Technologically infeasible; As demonstrated in the *2022 Ozone Plan*, Rule 4672 currently has in place the most stringent measures feasible to implement in the Valley. Rule 4672 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
			requirements within 60 days and achieve reductions within one to two years.

5.4 Petroleum Production and Marketing Inventory

		2017	2031	2037	2017	2031	2037
MSC	SUB CATEGORY	NOx (tpd)	NOx (tpd)	NOx (tpd)	VOC (tpd)	VOC (tpd)	VOC (tpd)
310	OIL AND GAS PRODUCTION	0.23	0.09	0.07	11.46	7.55	6.33
320	PETROLEUM REFINING	0.01	0.01	0.01	0.44	0.44	0.44
330	PETROLEUM MARKETING	0.06	0.05	0.05	5.09	3.82	3.78
399	OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00	0.00	0.01	0.01	0.01
	Totals	***0.30***	***0.15***	***0.13***	***17.00***	***11.82***	***10.56***

This category includes oil and natural gas wells, storage tanks, vapor recovery units, flares, sumps, wastewater separators, and other petroleum processes. These units emit NOx and VOCs and are primarily located at oil and natural gas fields, refineries, fuel terminals, gasoline dispensing facilities, natural gas processing plants, and pipelines. These units have significant variability in technology, size, use and age of equipment, as well as variability in potential controls for various pollutants. In addition, CARB has included analysis for further emission reduction opportunities below in Section 5.10. CARB's analysis includes evaluating VOC reduction opportunities from vehicle refueling, cargo tanks, and leak detection and repair requirements for the oil and gas production industry.

The District has evaluated opportunities for contingency measures within the petroleum production and marketing category and did not identify a feasible measure. The District has recently increased the stringency of petroleum rules even further with amendments to leak detection and repair as well as crude oil production sump rules in 2023. In addition, on December 2, 2023, EPA finalized Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review. Emissions Guidelines (EG) OOOOc will require the District and CARB to develop and submit a plan/amended rules to the EPA. Given that this will be a regulatory approach by both CARB and the District to further control VOC emissions from heavy oil sources, it is not a measure that can be held back to be available for contingency. The District's analysis is provided below:

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4311 (Flares)	None; no technologies currently available to achieve lower limits.	No; The District recently adopted amendments to Rule 4311 in December 2020 after going through a robust public process of over 3 years. As stated in the Appendix B of the 2020 Rule 4311 staff report, the control level implemented in the recent rule amendment (December 2020) required substantial costs and the emission levels selected are the most stringent levels.[24] The District did not identify any new level of control more stringent than what is currently required under Rule 4311. The 2020 amendments require operators to install the cleanest ultra-low NOx flaring technology available. Further reductions from this source category would require control technologies with greater complexity and costs, which have yet to be identified and would be less cost effective than the previous rule amendment. Notably, the most recent amendments to these rules required over 3 years of analysis and public engagement. Additionally, operations are still in the process of complying with the recent rule amendments, and imposing more stringent requirements on these facilities at this time would be infeasible. Rule 4311 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4401 (Steam-Enhanced Crude Oil Production Wells)	Lower the leak detection and repair threshold. Increase frequency of inspection.	Economically infeasible; the District recently amended Rule 4401 in June 2023 to lower the leak detection and repair limit to 500 ppmv in order to meet BARCT requirements pursuant to AB 617. The District also evaluated lower limits as part of the rule development process. Previous District Analysis found that the incremental cost of lowering the leak detection and repair limit to 100 ppmv would have an incremental cost effectiveness of $543,004 per	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design and plan, while also adding significant inspection costs. Lead-time required would not conform to the

[24] SJVAPCD. *Adopt Proposed Amendments to Rule 4311 (Flares).* (December 17, 2020). Retrieved from: https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2020/December/final/12.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		ton of VOC reduced compared to the adopted 500 ppmv limit.[25] The 100 ppmv limit is not cost effective. Rule 4401 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Recently, this rule was amended and operations are currently planning to meet recently amended rule requirements.
Rule 4402 (Crude Oil Production Sumps)	The District recently adopted a more stringent produced water VOC threshold for sumps and ponds in December 2023. The District further evaluated removal of exemptions within the Rule for small producers.	Economically infeasible; the District recently adopted a more stringent VOC threshold for produced water in sumps and ponds. Notably, this amendment matches the VOC threshold requirements in other air districts such as SCAQMD and SLOAPCD. The District also evaluated lower limits as part of the rule development process. District Analysis found that the incremental cost of lowering the VOC threshold down to 2.5 milligrams per liter would have an incremental cost effectiveness as high as $233,024 per ton of VOC reduced compared to the adopted 5 milligrams VOC per liter limit.[26] That limit is not cost effective. The District further evaluated exemptions for small and very small producers. The District determined that those exemptions are infrequently used and the emissions from these sumps are miniscule. As part of the rule development process, the District conducted outreach to develop an inventory of ponds and sumps in the Valley. During this outreach, only two operations claimed to be using exemptions 4.1.1 or 4.1.3. The District estimates that requiring the average size exempt sump/pond at a small producer to meet 5 mg/L would reduce VOC emissions by less than 0.005 tons/day. Therefore, exemptions 4.1.1 and 4.1.3 were retained in Rule 4402 as part of the December 2023 amendments.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, budget, and plan. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

[25] SJVAPCD. *Appendix C Cost Effectiveness Analysis for Proposed Amendments to Rules 4401, 4409, 4455, 4623 and 4624.* June 15, 2023. Retrieved from: https://www.valleyair.org/Workshops/postings/2023/06-15-23_rules/c.pdf
[26] SJVAPCD. *Item Number 14: Adopt Proposed Amendments to District Rule 4402 (Crude Oil Production Sumps).* December 21, 2023. https://ww2.valleyair.org/media/bnujcnwo/item-14_-rule-4402.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		Given the insignificance of the emissions from these sumps and ponds and the limited operations claiming the exemptions within the Rule, the District is not pursuing this source category for a contingency provision. In addition, Rule 4402 continues to meet or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4404 (Heavy Oil Test Station – Kern County)	There are currently no heavy oil test stations operating in the Valley, and therefore no opportunities for emission reductions from Rule 4404. Therefore, this source category is not suitable for a contingency measure.	-	-
Rule 4407 (In-Situ Combustion Well Vents)	There are currently no in-situ combustion well vents operating in the Valley, and therefore no opportunities for emission reductions from Rule 4407. Therefore, this source category is not suitable for a contingency measure.	-	-
Rule 4408 (Glycol Dehydration Systems)	Require further control of VOC emissions from glycol dehydration systems.	Technologically infeasible; Rule 4408 already requires all glycol dehydration systems to control emissions to a significant degree and further emission reductions cannot be achieved. Rule 4408 requires facilities to either collect VOC emissions using a vapor recovery system, combust VOC emissions, or any other	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		alternative emissions control device that achieves 95% control efficiency. As demonstrated, the requirements of Rule 4408 already significantly reduce emissions from this source category and leaves very little opportunity for emission reductions. The previous 2002 rule amendment was estimated to reduce 1.53 tpd of VOC, representing a 92% reduction from the emissions inventory. Thus there are very few opportunities to further reduce emissions from this source category. Rule 4408 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4409 (Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities)	Lower the leak detection and repair threshold. Increase frequency of inspection.	Economically infeasible; the District recently amended Rule 4409 in June 2023 to lower the leak detection and repair limit to 500 ppmv in order to meet BARCT requirements pursuant to AB 617. The District also evaluated lower limits as part of the rule development process. District Analysis found that the incremental cost of lowering the leak detection and repair limit to 100 ppmv would have an incremental cost effectiveness of $447,095 per ton of VOC reduced compared to the adopted 500 ppmv limit.[27] The 100 ppmv limit is not cost effective. Rule 4409 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design and plan, while also adding significant inspection costs. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Recently, this rule was amended and operations are currently planning to meet recently amended rule requirements.

[27] SJVAPCD. *Appendix C Cost Effectiveness Analysis for Proposed Amendments to Rules 4401, 4409, 4455, 4623 and 4624.* June 15, 2023. Retrieved from: https://www.valleyair.org/Workshops/postings/2023/06-15-23_rules/c.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4453 (Refinery Vacuum Producing Devices or Systems)	Increase the 90% control efficiency requirement.	Technologically infeasible; As demonstrated in the *2022 Ozone Plan*, the District currently requires the most stringent measures feasible for this source, and is as stringent as or more stringent than other analogous rules. No further emissions reductions have been identified at this time to further increase the already stringent 90% control efficiency requirement. Further, a contingency trigger is incompatible with the technologies involved in reducing emissions from this category. Rule 4453 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4454 (Refinery Process Unit Turnaround)	Lower degassing from 5 psig to 4.6 psig of vent pressure and limiting effluent gas to less than 10,000 ppm	Economically infeasible; as stated in Appendix C of the District's *2022 Ozone Plan*, the District evaluated further lowering the degassing from 5 psig to 4.6 psig vent pressure and limiting effluent gas to less than 10,000 ppm and found these control options require significant capital costs that are not cost effective. District analysis found that the cost effectiveness for this control option is $212,447 per ton of VOC reduced. Rule 4454 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4455 (Components at Petroleum Refineries, Gas	Lower the leak detection and repair thresholds. Increase frequency of inspection.	Economically infeasible; the District recently amended Rule 4455 in June 2023 to lower the leak detection and repair limit to 500 ppmv in order to meet BARCT requirements pursuant to AB 617.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries,

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Liquids Processing Facilities, and Chemical Plants)		The District also evaluated lower limits as part of the rule development process. District Analysis found that the incremental cost of lowering the leak detection and repair limit to 100 ppmv would have an incremental cost effectiveness of $630,797 per ton of VOC reduced compared to the adopted 500 ppmv limit.[28] The 100 ppmv limit is not cost effective. Rule 4455 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	stakeholders, and public. Operations would need long lead time to design and plan, while also adding significant inspection costs. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Recently, this rule was amended and operations are currently planning to meet recently amended rule requirements.
Rule 4621 (Gasoline Transfer Into Stationary Storage Containers, Delivery Vessels, and Bulk Plants)	Develop equipment more stringent than CARB's Phase I standard for gasoline transfer from storage containers or mobile refuelers.	Technologically infeasible; the District is already requiring the most stringent control strategy possible. The District previously implemented all CARB certified Phase I vapor recovery equipment and equipment applicable to CARB's Executive Order and Certification Procedure requirements in 2013. The required equipment further reduced emissions from gasoline transfer into vehicles and has not been superseded by a more stringent standard. To further reduce emissions from this source category, the District would have to develop, test, certify, and distribute equipment that is more stringent than CARB's Phase I standard. Therefore, there are no further technologically feasible control options available for this source category. Rule 4621 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

[28] SJVAPCD. *Appendix C Cost Effectiveness Analysis for Proposed Amendments to Rules 4401, 4409, 4455, 4623 and 4624.* June 15, 2023. Retrieved from: https://www.valleyair.org/Workshops/postings/2023/06-15-23_rules/c.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4622 (Gasoline Transfer Into Motor Vehicle Fuel Tanks)	Develop equipment more stringent than CARB's Phase II standard for gasoline transfer into vehicles.	Technologically infeasible; the District is already requiring the most stringent control strategy possible. The District previously implemented all CARB certified Phase II vapor recovery equipment and equipment applicable to CARB's Executive Order and Certification Procedure requirements in 2013. The required equipment further reduced emissions from gasoline transfer into vehicles and has not been superseded by a more stringent standard. To further reduce emissions from this source category, the District would have to develop, test, certify, and distribute equipment that is more stringent than CARB's Phase II standard. Therefore, there are no further technologically feasible control options available for this source category. Rule 4622 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4623 (Storage of Organic Liquids)	Lower the minor and major component gas leak threshold. Increase frequency of inspection.	Economically infeasible; the District recently amended Rule 4623 in June 2023 to lower the leak detection and repair limit to 500 ppmv in order to meet BARCT requirements pursuant to AB 617. The District also evaluated lower limits as part of the rule development process. Previous District Analysis found that the incremental cost of lowering the leak detection and repair limit to 100 ppmv would have an incremental cost effectiveness of $392,080 per ton of VOC reduced compared to the adopted 500 ppmv limit.[29] The 100 ppmv limit is not cost effective. Rule 4623 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore,	No; This measure would require a robust public process that would take at least two years (or more). The lead time required for operations to plan and budget for increased inspections and maintenance would be infeasible with the trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Recently, this rule was amended and operations are currently planning to meet recently amended rule requirements.

[29] SJVAPCD. *Appendix C Cost Effectiveness Analysis for Proposed Amendments to Rules 4401, 4409, 4455, 4623 and 4624.* June 15, 2023. Retrieved from: https://www.valleyair.org/Workshops/postings/2023/06-15-23_rules/c.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4624 (Transfer of Organic Liquids)	Lower the minor and major component gas leak threshold. Increase frequency of inspection.	Economically infeasible; the District recently amended Rule 4624 in June 2023 to lower the leak detection and repair limit to 500 ppmv in order to meet BARCT requirements pursuant to AB 617. The District also evaluated lower limits as part of the rule development process. Previous District Analysis found that the incremental cost of lowering the leak detection and repair limit to 100 ppmv would have an incremental cost effectiveness of $435,826 per ton of VOC reduced compared to the adopted 500 ppmv limit.[30] The 100 ppmv limit is not cost effective. Rule 4624 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; This measure would require a robust public process that would take at least two years (or more). The lead time required for operations to plan and budget for increased inspections and maintenance would be infeasible with the trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Recently, this rule was amended and operations are currently planning to meet recently amended rule requirements.

[30] SJVAPCD. *Appendix C Cost Effectiveness Analysis for Proposed Amendments to Rules 4401, 4409, 4455, 4623 and 4624.* June 15, 2023. Retrieved from: https://www.valleyair.org/Workshops/postings/2023/06-15-23_rules/c.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4625 (Wastewater Separators)	Increase the control efficiency of vapor recovery systems.	Technologically infeasible; the District already requires significant control of this source category and leaves very little opportunity for additional emission reductions. Rule 4625 already requires solid covers, floating pontoon covers, or implement a vapor recovery system that achieves 95% control efficiency by weight. No additional opportunities have been identified at this time. Rule 4625 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; This measure would require a robust public process that would take at least two years (or more). The lead time required for operations to plan, obtain operating permits, and budget for increased costs would be infeasible with the trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

5.5 Industrial Processes

		2017	2031	2037	2017	2031	2037
MSC	**SUB CATEGORY**	**NOx (tpd)**	**NOx (tpd)**	**NOx (tpd)**	**VOC (tpd)**	**VOC (tpd)**	**VOC (tpd)**
410	CHEMICAL	0.32	0.34	0.38	2.63	2.78	3.08
420	FOOD AND AGRICULTURE	0.00	0.00	0.00	12.76	15.17	17.11
430	MINERAL PROCESSES	0.25	0.24	0.25	0.22	0.20	0.21
440	METAL PROCESSES	0.00	0.00	0.00	0.17	0.21	0.24
450	WOOD AND PAPER	0.00	0.00	0.00	0.01	0.01	0.01
460	GLASS AND RELATED PRODUCTS	3.08	1.75	1.75	0.01	0.01	0.01
470	ELECTRONICS	0.00	0.00	0.00	0.00	0.00	0.00
499	OTHER (INDUSTRIAL PROCESSES)	0.01	0.01	0.01	0.49	0.56	0.62
	Totals	***3.66***	***2.34***	***2.39***	***16.29***	***18.94***	***21.28***

This category includes dryers, dehydrators, ovens, glass melting furnaces, chemical storage tanks, wine fermentation tanks, resin, polypropylene, polystyrene, polyethylene manufacturing, inks and coatings manufacturing. These processes and units emit NOx and VOCs and are located at glass plants, agricultural and chemical distributors, operations that use fiberglass to manufacture products, hot mix asphalt batch plants, food manufacturing operations, agricultural drying operations, container manufacturing operations, and wine and brandy aging operations. These processes and units have

significant variability in technology, size, use and age of equipment, as well as variability in potential controls for various pollutants.

The District has evaluated opportunities for contingency measures within the industrial processes category and did not identify a feasible measure. Notably, the District has recently amended a number of rules within this category to incorporate more stringent regulations that go beyond state and federal regulations. The District's analysis is provided below:

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4309 (Dryers, Dehydrators, and Ovens)	Require use of technologies such as low NOx burners.	No; As stated in Appendix C of the *2022 Ozone Plan*, alternative control technology such as low NOx burners would reduce NOx emissions, however, more stringent requirements have not been implemented for many categories. For example, the *2022 Ozone Plan* concluded that District Rule 4309 is at least as stringent as or more stringent than analogous rules from other California air districts. The only analogous rule identified to be more stringent than Rule 4309 was South Coast Air Quality Management District (SCAQMD) Rule 1147.1, which the District concluded that this rule exceeds RACT requirements and the NOx requirement has not been widely adopted in other SIP rules. In addition, requiring the use of these burners has proven to have a negative impact on product quality such as drying onions and changing onion color due to higher carbon monoxide emissions. The District does not see implementing low NOx burners as feasible due to affecting the facilities ability to carry out normal business until the technologies are further improved. Rule 4309 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4354 (Glass Melting Furnaces)	Require use of additional or alternative control technologies beyond existing stringent controls.	No; As stated in Appendix C of the 2021 Rule 4354 Staff Report, the District reviewed alternative control technologies, including, but not limited to, oxy-fuel fired furnaces and natural gas furnaces equipped with a SCR, and found no additional feasible control technologies for this source category.[31] Alternative control technologies, require substantial capital, operation, and maintenance costs associated with implementation. In addition, significant amount of space is also required for certain types of controls, making implementation of these technologies infeasible. Capital costs are estimated to range from $2,123,053 to $28,307,370 while annual operation and maintenance costs range from $595,088 to $3,676,829. Additionally, as a comparison, EPA recently finalized their interstate transport FIP which included new national emissions limits that are significantly higher (less stringent) than the District's rule limits. Rule 4354 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Additionally, operations are currently investing in control technologies to meet recently amended rule limits.
Rule 4610 (Glass Coating Operations)	There are currently glass coating operations in the Valley, and there are no opportunities for emission reductions from Rule 4610. Therefore, this source category is not suitable for a contingency measure.	-	-
Rule 4623 (Storage of Organic Liquids)	Lower the minor and major component gas leak threshold. Increase frequency of inspection.	Economically infeasible; the District recently amended Rule 4623 in June 2023 to lower the leak detection and repair limit to 500 ppmv in order to meet BARCT requirements pursuant to AB 617.	No; This measure would require a robust public process that would take at least two years (or more). The lead time required for operations to plan and budget for increased

[31] SJVAPCD. *Adopt Proposed Amendments to Rule 4354 (Glass Melting Furnaces)*. (December 16, 2021). Retrieved from: https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2021/December/final/11.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		The District also evaluated lower limits as part of the rule development process. Previous District Analysis found that the incremental cost of lowering the leak detection and repair limit to 100 ppmv would have an incremental cost effectiveness of $392,080 per ton of VOC reduced compared to the adopted 500 ppmv limit.[32] The 100 ppmv limit is not cost effective. Rule 4623 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	inspections and maintenance would be infeasible with the trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years. Recently, this rule was amended and operations are currently planning to meet recently amended rule requirements.
Rule 4652 (Coatings and Ink Manufacturing)	Lower VOC limits from coatings or lower VOC limits for organic solvents used in cleaning operations. Increase the capture and control efficiency of the VOC emission control device.	Technologically infeasible; the emissions inventory for this source category is minimal due to the lack of facilities subject to Rule 4652. The District only has 4 active permitted facilities in the Valley subject to Rule 4652, which emit less than 0.00 tpd of VOC emissions. Therefore, limited emissions reductions opportunities exist. Additionally, Rule 4652 implements the most stringent measures feasible for the Valley. Rule 4652 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to develop new products with lower VOC content. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

[32] SJVAPCD. *Appendix C Cost Effectiveness Analysis for Proposed Amendments to Rules 4401, 4409, 4455, 4623 and 4624.* June 15, 2023. Retrieved from: https://www.valleyair.org/Workshops/postings/2023/06-15-23_rules/c.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4681 (Rubber Tire Manufacturing)	There are currently no rubber tire manufacturing facilities operating in the Valley, and there are no opportunities for emission reductions from Rule 4681. Therefore, this source category is not suitable for a contingency measure.	-	-
Rule 4682 (Polystyrene, Polyethylene, and Polypropylene Products Manufacturing)	There are no identified opportunities for further emission reductions from sources subject to Rule 4682.	Technologically infeasible; As stated in Appendix C of the District's *2022 Ozone Plan*, Rule 4682 currently implements RACT levels of control, which requires facilities to install an emission control device that has a VOC capture and control rate of at least 90%, or use a blowing agent that is not a VOC. Therefore, emissions from sources subject to Rule 4682 are already controlled to a significant degree with little opportunities for additional emission reductions. In addition, the District cannot identify control equipment that would further control emissions from this source category. Rule 4682 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4684 (Polyester Resin Operations)	See the District's further analysis for this source category in Section 5.12.	-	-

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4691 (Vegetable Oil Processing Operations)	As stated in the District's *2022 Ozone Plan*, the District only has one facility subject to this rule and is already equipped with emission control technologies that go beyond Rule 4691 requirements. Therefore, the District did not identify any additional emission reduction opportunities at this time.	-	-
Rule 4693 (Bakery Ovens)	Increase the 95% control efficiency requirement.	Technologically and economically infeasible; Rule 4693 already requires bakery oven emissions to be vented to an emission control device which has at least a 95% control efficiency, which is far more stringent than other requirements throughout the nation. Additionally, the previous rule amendment to Rule 4693 estimated that facilities would require $215,000 to comply with the current 95% control efficiency requirement. Further control of this source category would require substantial funds that would not be feasible for businesses to incur within contingency measure constraints. Rule 4693 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Operations would need long lead time to design, plan, obtain operating permits, and install control technology. Lead-time required would not conform to the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4694 Wine Fermentation and Storage Tanks	See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4695 Brandy Aging and Wine Aging Operations		Technologically infeasible; As demonstrated in the *2022 Ozone Plan*, Rule 4695 currently has in place the most stringent measures feasible to implement in the Valley. No additional emission reduction opportunities have been identified at this time.	-

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		Rule 4695 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	

5.6 Solvent Evaporation

		2017	2031	2037	2017	2031	2037
MSC	**SUB CATEGORY**	**NOx (tpd)**	**NOx (tpd)**	**NOx (tpd)**	**VOC (tpd)**	**VOC (tpd)**	**VOC (tpd)**
510	CONSUMER PRODUCTS	0.00	0.00	0.00	25.78	30.93	33.61
520	ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00	0.00	6.74	7.69	8.07
530	PESTICIDES/FERTILIZERS	0.00	0.00	0.00	20.81	18.46	18.19
540	ASPHALT PAVING / ROOFING	0.00	0.00	0.00	1.04	1.31	1.39
	Totals	***0.00***	***0.00***	***0.00***	***54.37***	***58.39***	***61.26***

This category includes consumer products, architectural coatings and related process solvents, pesticides/fertilizers, asphalt paving and roofing. These products emit VOCs and can be found in a multitude of consumer products that are packaged in aerosol containers, asphalt paving operations, residential and commercial developments and remodeling locations. In addition, CARB has also provided analysis for contingency measure opportunities for further control from consumer products and pesticides in Section 5.10 below.

The District has incorporated a contingency measure in Rule 4601, which includes removing the small container exemption from the rule for certain coatings should the measure be triggered. In addition, the District does not have regulatory authority over some solvent evaporation sub categories such as pesticides. The District has analyzed all other contingency measure opportunities for rules related to solvent evaporation, as provided below:

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4601 (Architectural Coatings)	The District has previously adopted a contingency measure in Rule 4601 in April of 2020. See the District's further analysis for this source category in Section 5.12.	-	-
Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations)	There are no identified VOC emission reduction opportunities associated with Rule 4641. Therefore, this source category is not suitable for a contingency measure.	-	-

5.7 Miscellaneous Processes

		2017	2031	2037	2017	2031	2037
MSC	**SUB CATEGORY**	**NOx (tpd)**	**NOx (tpd)**	**NOx (tpd)**	**VOC (tpd)**	**VOC (tpd)**	**VOC (tpd)**
610	RESIDENTIAL FUEL COMBUSTION	3.15	2.57	2.36	0.42	0.41	0.41
620	FARMING OPERATIONS	0.00	0.00	0.00	93.76	93.37	93.31
630	CONSTRUCTION AND DEMOLITION	0.00	0.00	0.00	0.00	0.00	0.00
640	PAVED ROAD DUST	0.00	0.00	0.00	0.00	0.00	0.00
645	UNPAVED ROAD DUST	0.00	0.00	0.00	0.00	0.00	0.00
650	FUGITIVE WINDBLOWN DUST	0.00	0.00	0.00	0.00	0.00	0.00
660	FIRES	0.03	0.04	0.04	0.13	0.15	0.16
670	MANAGED BURNING AND DISPOSAL	4.65	1.34	1.33	16.38	14.80	14.80
690	COOKING	0.00	0.00	0.00	0.40	0.45	0.47
699	OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00	0.00	0.00	0.00	0.00
	Totals	***7.83***	***3.95***	***3.73***	***111.09***	***109.18***	***109.15***

This category includes a number of categories such as residential fuel combustion (space heating, water heating, cooking, and other appliances, such as clothes dryers, barbecues, and water heaters used for pools, spas and hot tubs). Residential fuel combustion also includes wood-burning heaters (e.g., woodstoves, pellet stoves, and wood-burning

fireplace inserts). Farming Operations includes various animal specific feedlot operations. Fires includes emissions from automobile fires and structure fires. Managed burning and disposal includes various agricultural burning, forest management, and non-agricultural open burning. Cooking mostly includes emissions from commercial charbroiling, deep fat frying, and general cooking.

The District analyzed contingency measure opportunities for rules within the miscellaneous processes category and did not identify a feasible measure. Notably, CARB has planned to implement a zero NOx regulation for both residential space heating and residential water heating, thus leaving no opportunities for a contingency measure. In addition, the District has committed to phase out ag burning which also eliminates open burning as a contingency option. All other emission sources were found to be infeasible and the analysis is provided below:

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4103 (Open Burning)	None; The District has already committed to phase out ag burning by January 1, 2025.[33]	-	-
Rule 4106 (Prescribed Burns)	Require mechanical removal, air curtain burners, and forest-specific biomass projects.	No; As stated in Appendix C of the *2022 Ozone Plan*, alternative control methods are not feasible. The District reanalyzed various alternative control methods such as mechanical removal, air curtain burners, and forest-specific biomass projects, which are infeasible due to the vast number of acres that require management and lack of access to remote areas in the forest. Due to recent increase in wildfires, the District continues to support reductions of forest fire fuel through prescribed burns. Therefore, this source category is not suitable for a contingency measure.	No; Any new regulation would need approximately two years (or more) of rule development to allow for a robust public process with all affected industries, stakeholders, and public. Agencies would need long lead time to design, plan, and deploy technologies. In addition, land agencies also need to ensure that they have appropriate budgets in place, which could take significant time. The lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.
Rule 4570 (Confined Animal Facilities)	See the District's further analysis for this source category in Section 5.12.	-	-

[33] SJVAPCD. *Final Supplemental Report and Recommendations on Agricultural Burning.* June 17, 2021. Retrieved from: https://ww2.valleyair.org/media/aldmsd0b/final-supplemental-report-and-recommendations-on-agricultural-burning.pdf

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
Rule 4692 (Commercial Charbroiling)	Refer to the District's analysis in the District's *PM2.5 Contingency Measure SIP Revision* for Commercial Charbroiling.	-	-
Rule 4902 (Residential Water Heaters)	Adopt electrification requirements earlier than CARB measure.	No; CARB currently has an existing commitment that will require electrification and achieve emission reductions statewide starting in 2030. The District evaluated opportunities to advance the implementation timeframe of electrification requirements in the Valley. Manufacturers need time to ramp up production of zero-emission technologies to meet the expected demand. Further, any such standard would have to be developed in collaboration with energy and building code regulators and the District would need to ensure it was consistent with all State and local efforts. The District would need to work carefully with communities to consider any housing cost or affordability impacts. The District would need to engage with community-based organizations and other key stakeholders to incorporate equity considerations for low-income and environmental justice communities where feasible. Given the need for a measure with a contingency trigger and potentially short-term reductions, the long lead time associated with this potential measure, the attrition-based nature of implementation, and the existing CARB measure in place that would conflict with a local contingency measure, this measure is deemed infeasible. In an effort to identify potential emission reduction opportunities, the District's *2022 Ozone Plan* includes a further study commitment to evaluate current and upcoming work from CARB and other agencies related to reducing emissions from residential and commercial combustion sources, and evaluate the feasibility of implementing zero emission or low-NOx requirements for these sources in the Valley. Through this effort, the District will also evaluate opportunities to advocate for funding under the Inflation Reduction Act, Bipartisan Infrastructure Law, and other funding sources, which are prioritizing funding opportunities for electrification of appliances to reduce greenhouse gas emissions. Rule 4902 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal	No; This measure would require a very robust public process that would take at least two years (or more). Manufacturers would require long lead time to design and produce the amount of units needed. All units subject to 4902 have to be certified by the manufacturer prior to sale. Manufacturers would need long lead time to design new units and have them tested by independent third party laboratories, and finally certified by the Air District. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	
Rule 4905 (Natural Gas – Fired, Fan Type Residential Central Furnace)	Adopt electrification requirements earlier than CARB measure.	No; CARB currently has an existing commitment that will require electrification and achieve emission reductions statewide starting in 2030. The District evaluated opportunities to advance the implementation timeframe of electrification requirements in the Valley. Manufacturers need time to ramp up production of zero-emission technologies to meet the expected demand. Further, any such standard would have to be developed in collaboration with energy and building code regulators and the District would need to ensure it was consistent with all State and local efforts. The District would need to work carefully with communities to consider any housing cost or affordability impacts. The District would need to engage with community-based organizations and other key stakeholders to incorporate equity considerations for low-income and environmental justice communities where feasible. Given the need for a measure with a contingency trigger and potentially short-term reductions, the long lead time associated with this potential measure, the attrition-based nature of implementation, and the existing CARB measure in place that would conflict with a local contingency measure, this measure is deemed infeasible. In an effort to identify potential emission reduction opportunities, the District's *2022 Ozone Plan* includes a further study commitment to evaluate current and upcoming work from CARB and other agencies related to reducing emissions from residential and commercial combustion sources, and evaluate the feasibility of implementing zero emission or low-NOx requirements for these sources in the Valley. Through this effort, the District will also evaluate opportunities to advocate for funding under the Inflation Reduction Act, Bipartisan Infrastructure Law, and other funding sources, which are prioritizing funding opportunities for electrification of appliances to reduce greenhouse gas emissions.	No; This measure would require a very robust public process that would take at least two years (or more). Manufacturers would require long lead time to design and produce the amount of units needed. Lead time required would not conform with the required trigger timeline. It also would be infeasible to implement new requirements within 60 days and achieve reductions within one to two years.

District Rule	Contingency Options	Technological or Economic Feasibility	Trigger Feasibility
		Rule 4905 meets or exceeds federal RACT requirements for this source category based upon evaluation of applicable federal regulations, state standards, and other air districts' rules. Therefore, the District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.	

5.8 On-Road Motor Vehicles

MSC	SUB CATEGORY	2017 NOx (tpd)	2031 NOx (tpd)	2037 NOx (tpd)	2017 VOC (tpd)	2031 VOC (tpd)	2037 VOC (tpd)
710	LIGHT DUTY PASSENGER (LDA)	6.47	1.87	1.05	10.82	4.86	3.62
722	LIGHT DUTY TRUCKS - 1 (LDT1)	1.73	0.34	0.15	2.89	0.84	0.51
723	LIGHT DUTY TRUCKS - 2 (LDT2)	5.20	1.46	0.96	5.26	2.70	2.24
724	MEDIUM DUTY TRUCKS (MDV)	6.86	1.45	0.88	6.42	2.91	2.23
725	LIGHT HEAVY DUTY TRUCKS - 1 (LHDT1)	7.94	2.27	1.17	1.75	0.69	0.47
726	LIGHT HEAVY DUTY TRUCKS - 2 (LHDT2)	2.01	0.72	0.44	0.32	0.16	0.11
727	MEDIUM HEAVY DUTY TRUCKS (MHDT)	9.22	1.30	0.84	0.77	0.07	0.05
728	HEAVY HEAVY DUTY TRUCKS (HHDT)	56.65	9.53	9.12	2.19	0.66	0.72
750	MOTORCYCLES (MCY)	0.29	0.17	0.15	2.55	1.90	1.79
775	BUSES	1.50	0.37	0.20	0.14	0.05	0.04
780	MOTOR HOMES (MH)	0.26	0.12	0.09	0.16	0.03	0.02
	Totals	***98.13***	***19.60***	***15.05***	***33.27***	***14.87***	***11.8***

CARB analyzed opportunities to implement a contingency measure for on-road motor vehicles and identified the California Smog Check Contingency Measure. CARB did not identify any other feasible contingency measures. Please see CARB's discussion in their *California Smog Check Contingency Measure* document, and Section 5.10 below.

5.9 Other Mobile Sources

MSC	SUB CATEGORY	2017 NOx (tpd)	2031 NOx (tpd)	2037 NOx (tpd)	2017 VOC (tpd)	2031 VOC (tpd)	2037 VOC (tpd)
810	AIRCRAFT	2.53	4.59	4.59	3.01	3.91	3.93
820	TRAINS	13.12	16.58	14.03	0.61	0.67	0.55
833	OCEAN GOING VESSELS	0.05	0.05	0.04	0.00	0.00	0.00
835	COMMERCIAL HARBOR CRAFT	0.06	0.03	0.03	0.00	0.00	0.00
840	RECREATIONAL BOATS	3.42	2.99	2.91	20.37	11.19	8.94
850	OFF-ROAD RECREATIONAL VEHICLES	0.08	0.10	0.10	2.35	1.33	0.98
860	OFF-ROAD EQUIPMENT	24.01	11.18	9.40	14.95	7.85	5.60
861	OFF-ROAD EQUIPMENT (PERP)	5.87	2.16	2.10	0.49	0.30	0.33
870	FARM EQUIPMENT	50.45	19.64	13.40	9.03	4.28	3.20
890	FUEL STORAGE AND HANDLING	0.00	0.00	0.00	2.28	1.85	1.94
	Totals	***99.59***	***57.32***	***46.60***	***53.09***	***31.38***	***25.47***

As mentioned above, CARB analyzed opportunities to implement a contingency measure for emission sources under state control and did not identify a feasible measure for these emission sources. Please see CARB's discussion in their *California Smog Check Contingency Measure* document, and Section 5.10 below.

5.10 CARB Reactive Organic Gases Area Source Measure Analysis

CARB adopted the *California Smog Check Contingency Measure* to address contingency measure requirements throughout the State. U.S. EPA proposed to approve the *California Smog Check Contingency Measure* as a contingency measure on December 20, 2023. The Smog Check Contingency Measure, if triggered in a nonattainment area, would reduce the exemption for vehicles that are 8 model years old and newer to seven model years old and newer, thereby increasing the number of vehicles subject to Smog Check. This measure, if triggered, would achieve additional NOx and reactive organic gasses (ROG) reductions beyond what is currently achieved by the Smog Check Program by identifying additional emissions control equipment failures from vehicles previously exempt.

The *California Smog Check Contingency Measure* includes, in Appendix A, analysis on the feasibility of contingency measures related to CARB's mobile source control programs that target both ROG and NOx. CARB staff are now evaluating potential options for a contingency measure achieving ROG reductions from area sources that the State has authority to regulate, including both CARB and Department of Pesticide Regulation (DPR)'s regulations (Table 9), to determine feasibility given the contingency measure requirements under the Clean Air Act, recent court decisions and U.S. EPA *Draft Guidance*. The State currently has programs in place for these area sources and has evaluated a variety of regulatory mechanisms within existing and new programs for potential contingency triggers. Each measure was evaluated on whether it could be implemented within 60 days of being triggered and achieve the necessary reductions within 1-2 years of being triggered. Additionally, the technological feasibility of each option was considered to assess whether the measure would be technologically feasible to implement. More stringent requirements may be unavailable or economically infeasible to implement, especially in the time frame required for contingency measure implementation. Some measures aim to reduce VOC emissions as opposed to ROG emissions. However, VOC and ROG emissions are virtually equivalent. Thus, both terms are used interchangeably throughout this document.

Challenges for CARB Measures

Based on CARB's feasibility analysis, which is similar to our mobile source analysis, there are a few common components of CARB area source regulations that limit the options for contingency measures. CARB regulations that require development of new emissions control technologies or new product formulations require a long lead time for implementation. Manufacturers would need lead time to research, plan, certify, manufacture, and deploy lower-emitting alternatives to meet a new or accelerated standard. Additionally, consumer-based regulations necessitate that manufacturing is mature so that there is enough supply available to meet the additional demand. On the consumer side, additional time would be required for procurement implementation based on the new requirements. Thus, measures that require product turnover, new standards or reformulation are not appropriate to be used as a triggered contingency measure given the compressed timeline required for contingency.

CARB regulations are also technology-forcing, which makes it difficult to amend regulations or pull compliance timelines forward with only 1-2 years notice as industry needs time to research, plan, develop, and implement these new technologies and product formulations. It would be infeasible to require industry to purchase and install large numbers of new control technologies within one year if the technology is not readily available at a reasonable cost. CARB regulations are also the most stringent air quality control requirements in the country, so there are few opportunities to require additional stringency. CARB is driving sources under our authority to near-zero and zero-emissions everywhere feasible to provide for attainment of air quality standards across the State, and to support near-source toxics reductions and climate targets. However, these targets which are already being addressed in many CARB regulations also eliminate opportunities for a contingency measure.

Lastly, many of CARB's options for a contingency measure would require a full rulemaking process and would not be adopted by CARB and approved by U.S. EPA within the timeframe needed, making many of the options infeasible. Given U.S. EPA failure to submit and disapproval actions for the 75 ppb 8-hour ozone standard, sanction clocks have started and sanctions could be triggered in San Joaquin Valley, Coachella Valley, Mojave Desert and the Sacramento region in 2024. As such, CARB and these local air districts need to identify measure(s) that could realistically be adopted and submitted to U.S. EPA prior to that time. However, most CARB measures must go through a regulatory process that can take approximately five years from beginning development of a regulation to it being adopted by the CARB Board.

Based on CARB staff analysis, no additional measures were identified at this time to serve as a contingency measure to reduce ROG emissions beyond the California Smog Check Contingency Measure. More detail on the CARB staff analysis, including potential emission reduction options for each area source category are described in the following sections.

Consumer Products

Consumer products refer to chemically formulated products used by household and institutional consumers, such as detergents, personal care and cosmetics products, home and garden products, and disinfectants. CARB regulations for consumer products aim to reduce the amount of VOCs, toxic air contaminants, and greenhouse gases that are emitted from using these consumer products.

CARB is actively seeking further emission reductions to support ozone attainment in the South Coast and elsewhere in California. Towards this end, CARB's 2022 State SIP Strategy includes a consumer products statewide emissions reduction commitment of 20 tons per day (tpd) of VOCs.

To achieve the 20 tpd VOCs emission reduction, CARB staff anticipates casting a wide net in its review of product categories. CARB staff plans to launch a survey in early

2024 to collect sales and formulation data for products sold recently in California. Survey data will identify opportunities to further reduce ozone formation from consumer products. Staff expects to bring regulatory proposals to the Board by 2027.

The Consumer Products Rulemaking Process

In granting CARB authority to regulate consumer products, which were previously regulated by local air pollution control districts and air quality management districts, it was the Legislature's intent to have a single set of regulatory requirements applicable statewide, rather than a patchwork of regulations. CARB's Consumer Products Regulation applies statewide.

For any consumer products rulemaking, proposed amendments are the culmination of a multi-year public process by CARB to identify the most promising, technically-sound strategies to effectively help California meet its air quality challenges. The recent 2021 rulemaking took close to seven years and included the following three phases of regulatory development: 1) development and implementation of the three-year survey; evaluation and publication of 2013 through 2015 Consumer and Commercial Products Survey data; 2) evaluation of potential regulatory strategies based upon the survey data; and 3) development and refinement of Proposed Amendments.

Manufacturers need lead time to reformulate existing products to meet new VOC standards. Based on previous rulemakings, five significant milestones exist and are associated with reformulating products to meet new consumer product regulatory requirements: 1) research and development; 2) efficacy testing; 3) stability testing; 4) safety testing; and 5) consumer acceptance testing. In addition, manufacturers must make modifications to product labels. While there is some opportunity for manufacturers to run these processes concurrently, often a problem in any one of these milestones require the manufacturer to start the process again.

When setting technology forcing standards, CARB may provide for a Technical Assessment prior to effective dates. This enables CARB to assess progress made by manufacturers in developing complying products. In cases where product development challenges result in infeasibility of timely implementation, the assessment could result in amendments to the standards or to extensions in compliance deadlines.

Additionally, technology forcing standards often require modifications to facilities, equipment, and manufacturing processes. This would be the case if a product is reformulated to use compressed gas propellant instead of liquefied gas propellant. Use of compressed gas propellant requires the purchase and installation of new equipment and modifications to facility assembly lines, necessitating sufficient lead time for implementation as well as certainty about implementation dates for the technology forcing standards. CARB staff will be evaluating increased use of compressed gas propellant for the upcoming consumer product rulemaking.

Trigger Feasibility
To provide reductions qualifying for contingency purposes, CARB would need to adopt regulatory amendments which yield emission reductions that could be implemented within a short period of time from a triggering event.

For a given product category for which CARB proposes more stringent VOC standards, CARB cannot call for earlier implementation of those standards for contingency purposes. This is because CARB already requires implementation under short timelines to maximize air quality benefits in support of expeditious attainment of ambient air quality standards.

Neither can CARB set lower limits for products that would be produced and warehoused, but not sold unless a triggering event occurred. Warehousing of "contingency" products would be cost prohibitive for manufacturers and would not provide the Consumer Products Program with the maximum feasible air quality benefits, as required by the Legislature. Some consumer products also have limited shelf life and given the uncertainty of when a triggering event may occur, such an approach is not feasible.

Technological Feasibility
The Legislature, in Health and Safety Code (H&SC) Section 41712(b)(2) and 41712(d), stipulates that CARB's consumer product regulations must set standards which are commercially and technologically feasible. Therefore, during every consumer products rulemaking, CARB sets VOC limits that are the most technologically and commercially feasible at the time.

CARB's Consumer Products Regulation does not require lower VOC content products in some parts of California, which could then be required in other parts of California in need of contingency reductions.

When proposing more stringent VOC standards, CARB cannot establish two increasingly restrictive sets of VOC limits: one limit in support of attainment, which would go into place by a defined date; and a second, more stringent limit which would only be implemented if contingency needs were triggered. This is because: (1) State law, stated in H&SC section 41712(b)(1), requires CARB to adopt the most stringent feasible standards for attainment purposes; and (2) further reductions from consumer products are needed for attainment of ozone ambient air quality standards.

Neither could CARB set a single, more restrictive VOC standard, implement those requirements, and then hold back a portion of the anticipated emission reductions for contingency purposes while still dedicating the majority of accruing reductions towards attainment targets. In such a case, additional actual emission reductions would not occur if contingency requirements were triggered. This approach would therefore not satisfy requirements for contingency reduction.

Even if no further VOC reductions were needed for attainment, setting more stringent standards for contingency purposes would still not be a viable undertaking. This is because the testing and development of lower VOC products meeting more stringent standards could take years and much investment by manufacturers. Timelines would not mesh with the quick turnaround time needed for contingency reductions. In short, CARB cannot require development of new consumer products just in case additional emission reductions are needed. This means CARB cannot produce contingency reductions by setting more stringent standards for consumer product categories other than those which CARB would regulate further to secure the 20 tpd VOC emission reduction target for attainment purposes.

Further, CARB cannot, when seeking reductions in the very near-term (and consistent with contingency reduction timelines), rely on other jurisdictions whose regulations are resulting in lower-emitting consumer products which they could then offer for sale in California. California's Consumer Products Program is world-leading, cutting-edge and technology forcing. Manufacturers have not already developed products, and marketed them elsewhere, which they could direct to California in case a need for contingency reductions is triggered.

In summary, a consumer product contingency measure seeking additional emission reductions either by setting more restrictive standards, or by accelerating effective dates of standards, is infeasible.

Oil and Gas

For decades, air districts with significant oil production have adopted and implemented rules designed to reduce criteria pollutant precursor emissions from the oil and gas sector to meet NAAQS and Clean Air Act requirements. The air district rules control emissions of reactive organic gases (ROG) from tanks, separators, and compressors, and specify requirements for leak detection and repair (LDAR). The air district rules do not cover methane specific sources.

In 2017, CARB adopted the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (also known as the Oil and Gas Methane Regulation) to address methane emissions from equipment and processes not already controlled for ROG purposes by existing air district rules. Although the Oil and Gas Methane Regulation is intended to reduce methane emissions, many of the covered sources also emit ROG as co-pollutants, and therefore the regulation also reduces ROG emissions. Only four air districts in California with nonattainment areas have oil and gas equipment subject to the regulation: Sacramento Metropolitan Air Quality Management District, San Joaquin Valley Air Pollution Control District, South Coast Air Quality Management District, and Ventura County Air Pollution Control District. The air district rules and the Oil and Gas Methane Regulation complement one another and together reduce ROG emissions from California's oil and natural gas sector.

Starting in 2012, U.S. EPA established regulations to reduce air pollution from the oil and natural gas industry consisting of new source performance standards. U.S. EPA also promulgated a Control Techniques Guideline in 2016 for the Oil and Natural Gas Industry which requires all states with applicable nonattainment areas to meet the prescribed levels of control in order to satisfy reasonably available control technology requirements. The CTG requirements are met in California via air district rules and CARB's submittal of the Oil and Gas Methane Regulation. In December 2023, U.S. EPA finalized updated regulations for the oil and natural gas industry including more stringent new source performance standards and, for the first time, Emissions Guidelines. U.S. EPA's recent Emissions Guidelines will require that CARB amend the Oil and Gas Methane Regulation to meet the more stringent requirements.

Methane and ROG emissions can originate from oil and gas infrastructure when natural gas is either intentionally released ("vented" emissions) or unintentionally leaked ("fugitive" emissions). Intentional releases can occur due to process designs (e.g., as a fluid to operate pneumatic devices), for safety or maintenance reasons, or for when no other control or disposal options exist (where allowed). Unintentional leaks can occur due to factors such as defects or wear in connections, valves, seals, and similar mechanisms, or due to process upsets, system malfunctions, or human error. Vented emissions can be controlled primarily by replacing equipment with lower-emitting models or adding vapor collection systems to equipment, and the further controls that will be required under the recent U.S. EPA Emissions Guidelines represent all controls that are technologically feasible. Fugitive emissions are addressed through LDAR to find and fix unintentional leaks. In each of these areas, there are no additional available feasible control measures that could meet the requirements of a contingency measure.

First, there are not currently any additional measures in the Oil and Gas Methane Regulation that could be triggered without undertaking amendments to the regulation. The process for amending a regulation takes years to complete and requires the development of new measures, stakeholder engagement, and the formal regulatory process itself.

Second, even if the length of the regulatory process were not a barrier, no available surplus emission reductions could reasonably be implemented within the short timeframe required upon a triggering event. Implementation of additional controls requires at least two to three years for oil and gas facilities to comply with. New controls are not easily installed on equipment and would take additional time to upgrade, which likely does not fit in the contingency timeline required. Each of the potential emission reduction mechanisms in the Oil and Gas Methane Regulation are analyzed below:

- Reduce venting through equipment replacement or vapor control (control venting emissions):
    - The Oil and Gas Methane Regulation already includes strict venting standards for most categories of equipment designed to vent natural gas as part of normal operation. The areas where further control of vented emissions may be feasible are all being addressed by U.S. EPA's

Emissions Guidelines (finalized December 2023), which are standards that CARB must meet for existing sources to demonstrate compliance with the Clean Air Act; these are measures that must be implemented and cannot be held in reserve for use as triggered contingency measures. These include banning all associated gas venting, requiring all pneumatic controllers to be zero-emission, and requiring minimization of emissions from liquids unloading to the greatest extent possible.

- Expand/increase LDAR (control fugitive emissions):
    - Under the Oil and Gas Methane Regulation, LDAR is already mandated on a quarterly basis using a very sensitive methodology (U.S. EPA's Method 21). The only exemption that results in a significant number of sources not being subject to LDAR is for equipment handling exclusively heavy oil[34], which is not economically feasible to control based on analysis using currently available data.

In summary, there are no new technologically feasible control measures that CARB can implement in the Oil and Gas Methane Regulation that could meet the triggering timelines and other requirements, and are available to use as contingency measures.

Petroleum Marketing – Vehicle Refueling

Vapor recovery systems are installed at gasoline dispensing facilities (GDFs) to collect, contain, and return gasoline vapors that would otherwise escape into the atmosphere. Gasoline vapor emissions contain smog forming volatile organic compounds (VOCs) that are controlled in two phases at GDFs. Phase I vapor recovery collects vapors displaced from a storage tank when a cargo tank truck delivers gasoline. Phase II vapor recovery collects and stores vapors displaced during the transfer of gasoline from the GDF storage tanks into the vehicle tank. Stored gasoline vapors in the GDF tanks are then transferred into gasoline cargo tank trucks during Phase I activities and returned to gasoline terminals for processing. CARB regulations establish statewide performance standards for vapor recovery systems that must be achieved during the transfer and storage of gasoline. In addition, all vapor recovery systems must undergo CARB certification tests to demonstrate compliance with applicable performance standards before those systems can be sold, offered for sale, or installed in California.

Vapor recovery system performance standards for GDFs have become more stringent over the years. Since 2001, CARB has adopted over a dozen significant advancements as part of the Enhanced Vapor Recovery (EVR) program. Phase I EVR requires more durable and leak-tight components, along with an increased collection efficiency of 98%. Phase II EVR includes three major advancements: (1) dispensing nozzles with less spillage and required compatibility with ORVR (onboard refueling vapor recovery) vehicles, (2) a processor to manage the headspace pressure within the GDF storage tank, and (3) an in-station diagnostic (ISD) system that provides warning alarms to alert

[34] Oil with an API gravity of less than 20.

a GDF operator of potential vapor recovery system malfunctions. Phase I EVR was fully implemented in 2005 and Phase II EVR was fully implemented by 2011.

Additionally, CARB's air toxic control measure for benzene requires retail GDFs to install Phase I and Phase II systems to reduce public exposure. Exceptions to the measure include gasoline (1) dispensed from or transferred to a storage tank with a capacity less than 260 gallons, (2) dispensed to implements of animal husbandry; or (3) dispensed to vehicles with fuel tanks less than 5 gallons capacity.

Since the implementation of Phase I and Phase II EVR in 2011, CARB staff has made additional improvements to the vapor recovery program. For GDF equipped with underground storage tanks, a total of four regulatory amendments were completed between 2011 and 2023 to strengthen performance standards, adjust implementation dates to reflect evolving technology, clarify dimension requirements for nozzles and vehicle fill pipes, and improve cost effectiveness for system upgrade requirements. Two of the most recently implemented control measures, hose permeation and more stringent nozzle spillage standard, are described below.

- Hose Permeation Standard:
  CARB adopted performance standards for gasoline dispensing hose permeation on July 26, 2012. The intent of this standard is limiting the amount of gasoline that permeates through the dispensing hose. Hose permeation performance standards only apply to hoses in which liquid gasoline contacts the outer hose wall, specifically: Phase II vacuum assist and conventional hoses (latter are installed in facilities that are exempt from Phase II because they fueled predominately vehicles equipped with ORVR). Existing facilities subject to the performance standard were allowed four years from the effective date to attain compliance. The effective date is defined as the date when the first dispensing hose meeting the performance standard is certified by CARB.

  The first conventional and vacuum assist hoses that met the new permeation standard were certified by CARB on June 10, 2014, and September 24, 2014, respectively. These certification dates establish the effective dates and associated four-year periods (commonly referred to as "the four-year clock") for existing subject GDFs to comply. Existing GDFs that used conventional hoses and vacuum assist hoses had until June 10, 2018, and September 24, 2018, respectively to comply with the low permeation hose standard. New GDFs constructed after the effective dates that use vacuum assist or conventional hoses are required to install low permeation hoses at the time of construction.

- More Stringent Nozzle Spillage Standard:
  In April 2015, CARB adopted new performance standards and specifications for Enhanced Conventional (ECO) nozzles that are installed at non-retail GDFs, which are exempt from Phase II requirements by district rules. These GDFs fueled predominantly vehicles that are equipped with ORVR, which collects displaced vapor during vehicle refueling.

CARB staff have compiled and evaluated mass emission factors for nozzle spillage based on CARB certification test data for three EVR nozzles and two ECO nozzles. In April 2020, staff found that the mass emission factors based on certification data for all five nozzles are substantially lower than applicable performance standards. This finding demonstrated nozzles are performing much better than predicted for EVR implementation at the time CARB adopted the EVR regulations.

Consequently, in December 2020, the Board approved a more stringent performance standard of 0.05 lbs/kgal for nozzle spillage for both EVR and ECO nozzles to preserve emission reductions that are already occurring and prevent emissions from increasing.

Recent analysis indicates that CARB certified vapor recovery systems designed for use at GDFs are well over 90% effective[35] in reducing VOC emissions that would otherwise be emitted to the atmosphere. Given the maturity and robustness of the program and the stringency of existing control measures that have been implemented statewide, there are no available additional control measures that would be feasible to implement within the timeframes required for contingency measures. Even if more stringent control measures could be adopted, they would not be able to be implemented in the contingency timeframe required as manufacturers and retailers would need more than two years of lead-time, as has been provided in the past, to comply with new standards.

CARB staff believes future amendments will improve existing test procedures and ease the burden of compliance for GDF operators without causing any increase in emissions or costs. Further, absent any changes to vapor recovery controls, CARB staff expects that gasoline vapor emissions will track proportionally to fuel dispensed. As California transitions to more fuel-efficient vehicles, zero emission vehicles, and alternative fuel sources, gasoline consumption and associated vapor emissions are expected to decrease. However, as long as gasoline remains a major fuel source, CARB will need to maintain an active and effective vapor recovery program.

In summary, California has the most comprehensive vapor recovery program applicable to GDFs in the country, and there are no new technologically feasible control measures that could meet the triggering timelines and other requirements, and are available to use as contingency measures. California's program includes:

1. rigorous performance standards for Phase I transfer, Phase II transfer, In-Station Diagnostic systems, hose permeation, storage tank pressure management, and nozzle spillage,
2. strong enforcement of performance standards by local air districts, and
3. going well beyond US EPA's Stage I (Phase I in California), which is the sole focus of US-EPA's vapor recovery requirements.

[35] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2023/vapor_recovery_2023/isor.pdf

Going forward, the vapor recovery program will remain an important part of California's efforts to control regional ozone levels and reduce public exposure to benzene.

Petroleum Marketing – Cargo Tanks

In California, gasoline vapor emissions are controlled to reduce emissions of air pollutants, specifically VOCs and various toxic air contaminants (TACs) such as benzene. Emissions are controlled during the transfer of gasoline from storage tanks at refineries or terminals/bulk plants to tanker trucks also called cargo tanks (CTs). Cargo tanks transport gasoline to service stations also called GDFs. The Cargo Tank Vapor Recovery Program (CTVRP) regulations require annual testing of CTs to ensure that they do not exceed the allowable leak rate. Such tests are performed by CT owner/operators or independent testing contractors. Test results are submitted to CARB CTVRP staff for review and provide the basis for issuing a certification document with a decal, which must be renewed annually. To ensure the integrity of the program, CTVRP staff monitors the testing conducted by CT owners, operators, and contractors. Additionally, CTVRP staff perform random inspections and testing of CTs. Also, loading facilities are prohibited from transferring gasoline to CTs with invalid or expired certifications. Because of the severe and unique air pollution problems facing California, CARB's gasoline vapor control standards for CTs are more stringent than comparable federal standards.

CARB first adopted the cargo tank vapor recovery certification regulations on April 18, 1977. These regulations established a five-minute static pressure test with an allowable leak rate to prevent excessive gasoline vapor emissions and a one-minute test for CARB inspectors to monitor CTs loaded with gasoline. There have been six amendments to this regulation (1984, 1995, 1998, 2013, 2017, 2023). These amendments were mostly administrative in nature. However, the 1995 amendment reduced the allowable leak rate by 50%, making the CTVRP the strictest emission standards in the nation.

Altering of a CT design to control emissions would require input and approval from federal agencies such as Department of Transportation (DoT) and U.S. EPA, along with State agencies such as State Fire Marshal and California Highway Patrol. Getting such approval to implement new controls may take years due to the cumbersome approval process. The CTVRP already requires more stringent emission standards than the U.S. EPA. The current CARB and U.S. EPA standard is measured in Inches of Water Column (WC"). As an example, a cargo tank in California is not allowed to leak more than 0.5 WC" (0.018psi) in a five-minute test. CTs are as vapor tight as the current industry standards and design allows for. There is currently no design or technology that can reduce this number. Additionally, as mentioned, design alterations would require numerous and lengthy federal, State(s), and local municipalities approvals. Implementation of any new standards would also require long lead times to deploy new technologies and would likely take more than two years. As the population of zero emission vehicles increases on California roads, emissions from CTs will be reduced due to a decline in demand for gasoline.

In summary, due to the timelines involved in development of technology, altering CT designs, and anticipated drop in gasoline demand, there are no new technologically feasible control measures in the CTVRP that could meet the triggering timelines and other requirements, and are available to use as contingency measures.

Portable Fuel Containers (Gas Cans)

Portable Fuel Containers (PFCs), or gas cans, are used to fill a variety of equipment, including lawnmowers, vehicles, and personal watercraft. However, spillage and evaporative emissions can occur, which can result in ozone-forming smog and health related problems. In California, gas cans use low permeation materials and automatic sealing nozzles to minimize or eliminate spillage and evaporative emissions. All gas cans sold in California must be certified by CARB as meeting the low-emission requirements.

CARB staff analyzed PFCs to identify potential contingency measure options. It would not be possible to begin implementation of any contingency measures for PFCs within 60 days. CARB does not regulate consumer use of PFCs and must achieve emission reductions through performance requirements, including emission standards, for new PFCs. Manufacturers would need more than 1-2 years to design, certify, and manufacture PFCs that meet more stringent emission standards. Additionally, CARB regulations typically need to allow additional time for sell-through provisions to allow for consumers and retailers to transition to the new products, which further extends the implementation timeline. Adopting more stringent emission standards is not feasible to implement as a contingency measure because the regulatory process would take approximately 5 years from start to finish. The standards currently in place are also the most stringent standards across the nation.

In summary, there are no new technologically feasible control measures in the PFC regulations that could meet the triggering timelines and other requirements and are available to use as contingency measures.

Pesticides

Pesticides are used for urban and agricultural pest management across the State and are an areawide source of ROG and other types of emissions. Pesticides are regulated under both federal and State law. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), U.S. EPA has authority to control pesticide distribution, sale, and use. The Department of Pesticide Regulation (DPR) has primary and broad authority to regulate the sale and use of pesticides in California. The pesticide element of the 1994 Ozone SIP requires DPR to develop and implement regulations to reduce ROG emissions by specified amounts from agricultural and structural pesticide applications in nonattainment areas. CARB is supporting DPR to use its authorities to reduce ROG emissions as well as limit harmful exposures to pesticides impacting communities across the State.

DPR can generally reduce exposures to pesticides through the development and implementation of necessary restrictions on pesticide sales and use and by encouraging integrated pest management. Mitigation measures may be implemented by several methods, including regulations, local permit conditions, pesticide label changes, or product cancellation. Current regulations set limits on applications of certain pesticides and specify methods for application to protect public health. DPR regulations have been found by U.S. EPA to meet RACT, RACM, and BACM requirements as a part of past SIP submittals. Most recently, as a part of the 2022 State SIP Strategy developed to support of attainment of the 70 ppb ozone standard in the San Joaquin Valley and across California, DPR committed to update their 1,3-Dichloropropene (1,3-D) regulations for health risk mitigation and VOC emissions reductions. These regulatory updates address both cancer and acute risk to non-occupational bystanders through requirements including those on applicators to use totally impermeable film tarpaulins or other mitigation measures that provide a comparable degree of protection from exposure. DPR completed the rulemaking process for these regulatory updates, with the measures going into effect on January 1, 2024.

DPR has divided pesticide products into two groups for SIP purposes: fumigants and non-fumigants. The lead time needed to develop regulations for both groups of pesticide products may not fit in the contingency timeline required. For fumigant pesticide products, the primary measure to reduce ROG emissions is to change fumigation methods, such as deeper injection into the soil and covering fumigated areas with tarps that have low permeability. Developing new fumigation methods normally requires several years of research followed by rulemaking that usually requires two years or more to complete. For non-fumigant pesticide products, the primary measure to reduce ROG emissions is to change product formulations to reduce the ROG content. This also takes several years of research and rulemaking to complete. Additionally, changing product formulation normally requires review and registration of a new product by U.S. EPA which takes a year or more to complete. For both fumigant and non-fumigant products, little work on contingency measures can be done beforehand due to changing pesticide use patterns. Pesticide products that contribute the most emissions currently may not be the ones that contribute the most in the future due to changing cropping patterns, introduction of new pesticide products, and other factors.

Further, DPR regulations are the most stringent pesticide controls in the country and represent all measures that are technologically feasible at this time. For example, U.S. EPA's Office of Pesticide Programs also works to reduce emissions to reduce toxic exposure and their measures are implemented through nationwide product label changes. U.S. EPA has nearly completed its most recent review of 1,3-D with minimal label changes, while DPR's 1,3-D regulations include fumigation method requirements that will further reduce emissions. CARB and DPR are not aware of any other states with regulatory requirements to reduce ROG emissions from pesticide products. Further, in their past approvals of DPR regulations submitted into the California SIP, U.S. EPA identified no additional controls or measures beyond what is being implemented in California.

At this time, no additional measures for regulating pesticides have been identified for use as a contingency measure. However, DPR has developed a process to identify possible additional control measures through its roadmap for sustainable pest management (SPM). SPM is a process of continual improvement that integrates an array of practices and products aimed at creating healthy, resilient ecosystems, farms, communities, cities, landscapes, homes, and gardens. SPM examines the interconnectedness of pest pressures, ecosystem health, and human wellbeing. Going forward, CARB will continue to partner with DPR and explore the best methods to limit pesticide exposures, while also reducing emissions of volatile organic compounds.

Summary

At this time, CARB is including a zero-emission component in most of our regulations, both those already adopted and those that are in development, and the vast majority of these regulations are statewide in scope. Beyond the wide array of sources CARB has been regulating over the last few decades, and especially considering those we are driving to zero-emission, there are few area sources of emissions left for CARB to implement additional controls upon under its authorities for contingency purposes in the San Joaquin Valley.

Beyond the Smog Check Contingency Measure, no additional contingency measures were identified for mobile and non-mobile sources through CARB's analysis as shown in Table 9. Considering the air quality challenges California faces, if a measure achieving such reductions were feasible, CARB would implement the measure to support expeditious attainment of the NAAQS as the Clean Air Act requires rather than withhold it for contingency measure purposes. Further, should there be a measure achieving the required emission reductions, the measure would likely take more than 1-2 years to implement during which time the expected emission benefits could be reduced due to natural turnover of products and equipment.

Table 9 Assessment of Potential CARB Contingency Measures

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Pesticides	Fumigant products ROG reduction	Effective 4/1/16; Revise existing field fumigation methods.; Effective 1/1/24; Restrict use of 1,3-D for only agricultural commodities, set limits on application rate and methods to limit exposure/ emissions.	Require more stringent limitations and stricter application methods.	No; Trigger for use limit for 4 NAAs included in existing regulations; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Infeasible to achieve reductions within two years.	No; Research needed to achieve additional reductions.
	Non-fumigant products ROG reduction	Effective 11/1/13; Sale and use restrictions for products that have any of 4 primary active ingredients and applied to any of 7 crops in San Joaquin Valley.	Require use of “low-VOC” products.	No; Trigger requiring “low-VOC” products that have any of 4 primary active ingredients and applied to any of 7 crops in San Joaquin Valley included in existing regulations; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Infeasible to achieve reductions within two years.	No; Research needed to achieve additional reductions.
Oil and Gas	Oil and Gas Methane Regulation	Adopted 3/23/17. Requires quarterly monitoring of methane emissions and some equipment will require vapor collection systems.	Reduce venting through equipment replacement or vapor control (control venting emissions). Expand/increase LDAR (control fugitive emissions).	No; Standards and requirements need years of lead time to be implemented; infeasible to pull forward standard within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one 1-2 years.	No; only feasible controls are required to be implemented under U.S. EPA's Emissions Guidelines (finalized December 2023). No; current LDAR requirements are the most stringent in the country.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Consumer Products	Consumer Products	Amended 3/25/21. Lowered VOC standards for hair-care products, personal fragrance, manual aerosol air fresheners, and aerosol crawling bug insecticide.	Adopt and implement more stringent emission standards; pull forward compliance deadlines	No; Standards and requirements need years of lead time to be implemented; infeasible to pull forward standard within 60 days. Purchasing and manufacturing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one 1-2 years.	No; cannot require manufacturers to develop new formulations and products only for contingency and to warehouse just for contingency purposes. Also, since California has the most stringent requirements, cannot bring in lower-emitting products already manufactured for other markets.
Consumer Products	Portable Fuel Container (PFC) Regulation	Amended 4/1/2017. Updated certification test fuel, established 4 year certification term, and streamlined test procedures with U.S. EPA.	Adopt and implement more stringent emission standards	No; Standards requirements need years of lead time to be implemented; infeasible to enforce more stringent standards within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within 1-2 years.	No; standards currently in place are the most stringent.
Cargo Tanks (hauling gasoline)	Cargo Tank Vapor Recovery Program	Amended 10/01/23, Administrative in nature; corrected grammatical errors, removed imprecise language regarding alternative test procedures.	Setting more stringent standards	No; technology in this field has no new innovations and standards are more stringent than federal guidelines.	No; current standards and requirements are the most stringent in the nation and current technologies are most advanced.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Petroleum Marketing – Vehicle Refueling	Enhanced Vapor Recovery	Adopted July 26, 2012; performance standards for gasoline dispensing hose permeation April 2015; New performance standards and specifications for ECO Nozzles, including a more stringent nozzle spillage standard over EVR nozzles. December 2020; more stringent performance standard of 0.05 lbs/kgal for nozzle spillage for both EVR and ECO nozzles	Adopt and implement more stringent emission and performance standards	Standards requirements need years of lead time to be implemented; infeasible to enforce more stringent standards within 30 or 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	California has the most comprehensive vapor recovery program applicable to GDFs in the country; no additional opportunities for increased stringency

5.11 Opportunities for Transportation Control Measures

In addition to CARB's mobile source control measures, vehicular emissions can be reduced through implementation of Transportation Control Measures (TCMs), which are strategies that reduce transportation-related air pollution and fuel use by reducing vehicle miles traveled and improving roadway operations.[36] Vehicle use can be reduced through less-polluting transportation alternatives, such as public transit, strategies that decrease the need for vehicle trips, such as telecommuting, and through strategies to increase efficiency through management of the transportation system. CAA section 108(f) lists 16 types of TCMs, including:

- Programs for improved public transit;
- Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
- Employer-based transportation management plans, including incentives;
- Trip-reduction ordinances;
- Traffic flow improvement projects that achieve emission reductions;
- Fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;
- Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during period of peak use;
- Programs for the provision of all forms of high-occupancy, shared-ride services;
- Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- Programs to control extended idling of vehicles;
- Programs to reduce motor vehicle emissions, consistent with title II of the CAA, which are caused by extreme cold start conditions;
- Employer-sponsored programs to permit flexible work schedules;
- Programs and ordinances to facilities non-automotive travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of the transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
- Programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest; and

[36] EPA, "*Transportation Control Measures - Information Document for Developing and Implementing Emissions Reductions Programs*," EPA-430-R-09-040, March 2011.

- Program to encourage the voluntary removal from use and the marketplace of pre-1980 mode year light duty vehicles and pre-1980 model light duty trucks.

In the San Joaquin Valley, county planning and transportation agencies, transit districts and local jurisdictions are responsible for identifying, adopting and implementing most types of TCMs. There are eight county-based planning and transportation agencies in the San Joaquin Valley, which includes the metropolitan planning organizations (MPOs) for federal transportation planning purposes for their respective counties. The EPA's transportation conformity regulations require that the MPOs show timely implementation of all TCMs committed to in the applicable SIP, and the San Joaquin Valley MPOs are responsible for making the necessary demonstration of timely implementation when they determine conformity.

The Valley MPOs have identified and adopted a number of TCMs over the years through the District's attainment plans, including ongoing work with local transit agencies and local jurisdictions. The District's *2016 Ozone Plan* includes a list of TCMs implemented in the Valley to meet CAA requirements and to reduce vehicular emissions in support of the Valley's attainment plans for ozone and PM2.5.[37] Through this effort, essentially all of the types of TCMs listed in CAA section 108(f) have been implemented in part or parts of the San Joaquin Valley. More recently, the District's *2022 Ozone Plan* identifies and includes new TCMs for implementation in the coming years. The new TCMs include new projects that facilitate and encourage bicycle and pedestrian travel modes in support of transit-oriented development, that provide for eco-driving educational programs, that promote transit service, and that promote rideshare and carpool programs.

In addition, in 2009, the District adopted District Rule 9410 (Employer Based Trip Reduction) to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, VOC and PM. EPA approved District Rule 9410 on February 9, 2016.[38] The eTRIP Rule requires the Valley's larger employers, representing a wide range of locales and sectors, to select and implement workplace measures that make it easier for their employees to choose ridesharing and alternative transportation. Because of the diversity of employers covered by the eTRIP Rule, the rule was built with a flexible, menu-based approach. Employers choose from a list of measures, each contributing to a workplace that encourages employees to reduce their dependence on single-occupancy vehicles. Each eTRIP measure has a point value, and employer eTRIPs must reach specified point targets for each strategy

[37] 2016 Ozone Plan, Attachment D ("Adopted Transportation Control Measures") to Appendix D ("Mobile Source Control Strategy"), Tables D-10 - D17. The EPA approved different portions of the 2016 Ozone Plan at different times - see 83 FR 41006 (August 17, 2018), 84 FR 3302 (February 12, 2019), and 84 FR 11198 (March 25, 2019).

[38] EPA. *Approval and Promulgation of Implementation Plans; California; San Joaquin Valley Unified Air Pollution Control District; Employer Based Trip Reduction Programs; Final Rule*. 81 Fed. Reg. 26. Pp. 6761-6763. (2016, February 9). Retrieved from: https://www.govinfo.gov/content/pkg/FR-2016-02-09/pdf/2016-02411.pdf

over a phased-in compliance schedule (2010 – 2015). The District has continually provided employer assistance through training, guidance materials, promotional information, and online reporting options.

TCMs are not feasible contingency measures because TCMs have to be developed through the area's transportation planning process, which can take a significant amount of time and are funded to large degree by FHWA and FTA based on transportation improvement programs developed by the MPOs in the area. Therefore, given the time it would take to advance these projects through the planning and funding processes, TCMs are not feasible for a contingency measure.

5.12 Further Evaluation of Specific Categories

The following sections provide further evaluation of specific source categories and contingency measure opportunities. Notably, some of these categories comprise less than 1% of the VOC emissions inventory in the Valley. However, in an effort to identify additional contingency measure opportunities, the District conducted a further analysis of some of these categories.

Rule 4565 (Biosolids, Animal Manure, and Poultry Litter Operations)

The District adopted District Rule 4565 on March 15, 2007 to limit VOC emissions from facilities whose throughput consists entirely or in part of biosolids, animal manure, or poultry litter and the operator who landfills, land applies, composts, or co-composts these materials. Rule 4565 is designed to limit VOC emissions from facilities that manage biosolids, animal manure or poultry litter, and includes requirements for landfills, land application and composting/co-composting. Rule 4565's core requirements are contained in Section 5. Section 5.1 concerns landfill requirements. Section 5.2 of the rule requires land application mitigation measures.

Section 5.3 requires composting and co-composting facilities to select either Class One mitigation measures or Class Two mitigation measures, or a combination of both. Class One mitigation measures do not require add on controls and include practices such as scraping or sweeping where compostable material is mixed, screened or stored and maintaining minimum oxygen concentrations in active and curing compost piles. Class Two mitigation measures require add-on controls, and include conducting active or curing composting in aerated static piles or in-vessel composting systems that are vented to a VOC control device, most commonly a bio-filter.

Composting/co-composting facilities with throughput less than 20,000 wet tons per year must implement three Class One mitigation measures. Facilities with throughputs between 20,000 – 100,000 wet tons/year must currently implement four Class One mitigation measures. Facilities with throughputs above 100,000 wet tons/year must implement either four Class One mitigation measures and one Class Two mitigation measure for active composting, or two Class One mitigation measures and one Class Two mitigation measure for active composting and one Class Two mitigation measure

for curing composting. Sections 5.4, 5.5 and 5.6 contain additional requirements for large composting and co- composting facilities.

Small (throughputs less than 20,000 wet tons per year) and medium (20,000 - 100,000 wet tons per year) facilities are required to select 3 or 4 of the 6 listed Class One mitigation measures.

This analysis will evaluate the cost effectiveness of requiring small and medium sized facilities to implement additional Class One and Class Two mitigation measures, such as:

Class One Mitigation Measures

- Scrape all areas where compostable material is processed to ≤ 1"
- Maintain minimum oxygen concentration ≤ 5%
- Maintain moisture content of active and curing phase between 40% and 70%, by weight
- Maintain each active pile at an initial C:N ratio ≥ 20:1
- Cover all active piles with engineered waterproof cover or cover with ≥ 6" finished compost or soil
- Cover all curing piles with engineered waterproof cover or cover with ≥ 6" finished compost or soil

Class Two Mitigation Measures

- Conduct all active composting in aerated static pile(s) vented to a VOC emission control device with a VOC control efficiency of at least 80% by weight.
- Conduct all active composting in an in-vessel composting system vented to a VOC emissions control device with a VOC control efficiency of at least 80% by weight.
- Conduct all curing composting in aerated static pile(s) vented to a VOC emission control device with a VOC control efficiency of at least 80% by weight.
- Conduct all curing composting in an in-vessel composting system vented to a VOC emission control device with a VOC control efficiency of at least 80% by weight.

Rule 4565 Composting-Related Emission Factors

The composting mitigation measures used in the rule focus on the following three primary emission sources at co-composting composting facilities: (a) receiving/mixing areas, (b) active-phase compost piles, and (c) curing-phase compost piles. The District calculated emissions, based on the most recent data available, as follows:

Composting Emission Factors	
Emissions Areas	**Emission Factor (lb-VOC/wet-ton)**
Scraping Areas (Receiving/Mixing Areas)	0.2544
Active Phase Piles (90% of emissions)	1.602
Curing Phase Piles (10% of emissions)	0.178
Active Phase + Curing Phase Total	1.78

Rule 4565 Composting Facility Throughputs and Emissions

Composting facilities subject to Rule 4565 fall into one of three categories based on the tons of compost delivered to the facility for processing (throughput): those with throughputs less than 20,000 tons per year; those with at least 20,000 tons, but not more than 100,000 tons per year; and those with throughputs greater than 100,000 tons per year. For ease of discussion, this document refers to these facilities as small, medium, and large, respectively. For calculation purposes, the actual average annual throughputs of permitted co-composting facilities of small and medium facilities will be used. The actual average facility throughputs and calculated composting emissions for small and medium facilities are summarized in the tables below:

Permitted Co-compost Facilities	Average Annual Throughput (wet-ton/yr)
Small	10,996
Medium	36,497

Composting Emissions		
Emissions Areas	**Small Facility (ton-VOC/yr)**	**Medium Facility (ton-VOC/yr)**
Scraping Areas (Receiving/Mixing Areas)	1.4	4.64
Active Phase Piles	8.81	29.23
Curing Phase Piles	0.99	3.25
Active Phase + Curing Phase Total	9.8	32.48

Rule 4565 Control Measure Efficiencies

The District used data from the SJVAPSA (2011) study to update overall control efficiency for compost cover, but maintained efficiency values for scraping and the Class 2 measures that were used in the original 2006 rulemaking process and as used by SCAQMD for their Rule 1133.2 (Emission Reductions from Co-composting Operations). The control efficiencies for each mitigation measure are summarized in the table below:

Class 1 Measures	Overall Control Efficiency
Scrape to ≤ 1"	10%
5% ≤ Oxygen Concentration	10%
Moisture content between 40% and 70%, by weight	10%
C:N ratio of piles ≥ 20:1	10%
Cover Active Piles ≥ 6" (engineered cover without aerated static pile (ASP) system)	56%
Cover Curing Piles ≥ 6" (engineered cover without aerated static pile (ASP) system)	56%
Class 2 Measures	**Overall Control Efficiency**
In-vessel Composting System ≥ 80% for Active and Curing Phases	80%
ASP Composting System ≥ 80% for Active and Curing Phases	80%

Rule 4565 Cost of Reductions to a Facility

The District has utilized recent cost information from one permitted medium co-composting facility, as well as supplemental cost information from the 2011 TSD report, adjusted for the inflation rate from January 2011 to February 2024 (36.98% https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=100.00&year1=201108&year2=202402).

Capital Expenditures from a Permitted Medium Co-Composting Facility	
Mitigation Measures	**Capital Expenditures**
Scrape to ≤ 1"	$1,250,000
5% Oxygen Conc.	$2,300,000
Moisture Content	$1,300,000
C:N Ratio	$ -
Cover Active Piles ≥ 6"	$1,800,000
Cover Curing Piles ≥ 6"	$1,800,000

Annual Operational and Maintenance (O&M) from 2011 TSD Memo				
Class 1 Measures	**Small Facility Cost Range ($/ton-compost)**		**Medium Facility Cost Range ($/ton-compost)**	
Scrape to ≤ 1	3.00	6.00	1.20	2.40
Cover Active Piles ≥ 6"	7.88	10.81	7.88	8.85
Cover Curing Piles ≥ 6"	7.88	10.81	7.88	8.85
Class 2 Measures	**Small Facility Cost Range ($/ton-compost)**		**Medium Facility Cost Range ($/ton-compost)**	
Active-Phase in-vessel to ≥ 80% control	18.00	22.63	16.00	17.50
Curing-Phase in-vessel to ≥ 80% control				
Active-Phase ASPs to ≥ 80% control	18.00	22.63	16.00	17.50
Curing-Phase ASPs to ≥ 80% control				

Class One Mitigation Measures Cost Effectiveness

While most of the Valley's existing large compost facilities have throughputs much greater than 100,000 tons per year, the scaling of facility size also increase costs, emissions, and therefore emissions reductions. The cost-effectiveness calculation accounts for scaling of facilities and emissions, thus minimizing the impact on the cost effectiveness when increasing facility size.

$$Cost\ Effectiveness\ \left(\frac{\$}{tonVOCreduced}\right) = \frac{Annualized\ Capital\ Expenditure\ \left(\frac{\$}{yr}\right) + Annual\ Operational\ and\ Maintenance\ Expenditure\ \left(\frac{\$}{yr}\right)}{Throughput\ \left(\frac{tons\ Compost}{yr}\right) x\ Emissions\ Factor\ \left(\frac{lb-VOC}{tons\ Compost}\right)\ x\ Control\ Efficiency\ (\%\ reduced)}$$

The cost effectiveness numbers per ton of VOC reduced for each Class One Mitigation Measure for small facilities and medium facilities are summarized in the table below.

Cost Effectiveness of Class One Mitigation Measures				
Class One Measures	**Small Facility Cost Range ($/ton-VOC reduced)**		**Medium Facility Cost Range ($/ton-VOC reduced)**	
Scrape to ≤ 1"	1,424,878	1,747,944	461,199	590,426
5% ≤ Oxygen Concentration	355,267	355,267	107,041	107,041
Moisture content between 40% and 70%, by weight	229,289	229,289	69,084	69,084
C:N ratio of piles ≥ 20:1	638,478	638,478	192,372	192,372
Cover Active Piles ≥ 6" (engineered cover without aerated static pile (ASP) system)	69,056	78,003	37,620	40,582
Cover Curing Piles ≥ 6" (engineered cover without aerated static pile (ASP) system)	621,503	702,031	338,578	365,237

Class Two Mitigation Measures Cost Effectiveness

Rule 4565 section 5.3.3 requires large facilities with throughputs above 100,000 tons to implement at least one Class Two measure, which will require add-on controls, most likely a bio-filter. The District has utilized recent cost information from one permitted medium co-composting facility, as well as supplemental cost information from the 2011 TSD report, adjusted for the inflation rate from January 2011 to February 2024 (36.98% https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=100.00&year1=201108&year2=202402).

The cost effectiveness numbers per ton of VOC reduced for each Class Two Mitigation Measure for small facilities and medium facilities are summarized in the table below:

Cost Effectiveness of Class Two Mitigation Measures				
Class Two Measures	Small Facility Cost Range ($/ton-VOC reduced)		Medium Facility Cost Range ($/ton-VOC reduced)	
In-vessel Composting System ≥ 80% for Active and Curing Phases	699,720	798,693	436,914	468,979
ASP Composting System ≥ 80% for Active and Curing Phases	699,720	798,693	436,914	468,979

The previous summary table combined the active and curing phase cost effectiveness totals of each control technology. However, the District assumes 90% of the compost emissions occur during the active phase and 10% of the compost emissions occur during the curing phase. The separate cost effectiveness of the active and curing phases for each control technology is summarized in the table below:

Cost Effectiveness of Class Two Mitigation Measures				
Class Two Measures	Small Facility Cost Range ($/ton-VOC reduced)		Medium Facility Cost Range ($/ton-VOC reduced)	
In-vessel Composting System ≥ 80% for Active Phase	69,972	79,869	43,691	46,898
In-vessel Composting System ≥ 80% for Curing Phase	629,748	718,824	393,223	422,081
ASP Composting System ≥ 80% for Active Phase	69,972	79,869	43,691	46,898
ASP Composting System ≥ 80% for Curing Phase	629,748	718,824	393,223	422,081

Based on the above analysis, the District finds that it is not cost-effective to require additional controls for small and medium sized facilities as a contingency measure.

Rule 4570 (Confined Animal Facilities)

The purpose of District Rule 4570 is to reduce VOC emissions from confined animal facilities (CAF).[39] Rule 4570 requires facilities that exceed the regulatory thresholds for any livestock category to implement measures that reduce VOC emissions. Each confined animal facility that exceeds livestock thresholds must obtain a permit to operate and develop a mitigation plan that is comprised of the mitigation measures chosen by the facility. CAFs that are subject to the rule must implement a number of mitigation measures that are designed and proven to reduce VOC emissions. The option of measures range from using certain feed options, storing feed in weatherproof structures, and venting enclosures to a VOC control device, among numerous other options tailored to reduce VOC emissions for each category of confined animal facilities.

While the District's rule is the most stringent rule in the nation and has been used as a model for other regions, the District has found that Imperial County Air Pollution Control

[39] SJVAPCD. *Rule 4570 Confined Animal Facilities*. (Amended October 21, 2010). Retrieved from: https://ww2.valleyair.org/media/bh4dna44/rule-4570.pdf

District (ICAPCD) Rule 217 has set thresholds for "other cattle" facilities at 3,500 cattle, while District Rule 4570 sets the threshold for "other cattle" at 7,500 cattle.[40] It is not clear why ICAPCD selected this threshold, however, ICAPCD staff indicated that upon further evaluation that they do not have any large "other cattle" CAFs operating in their region and therefore do not have any facilities that would have to comply with this lower threshold. Due to the fact that this is an artificial limit and no other region has requirements that are actually subjecting other cattle facilities of this size to their rule, this limit will not be considered as a technically achievable limit and therefore will not be further evaluated as part of this contingency measure analysis.

In conclusion, District analysis has not identified any significantly more stringent requirements in analogous air district rules. Therefore, Rule 4570 is currently implementing the most stringent feasible measures possible and does not contain opportunities to implement a contingency measure.

Rule 4601 (Architectural Coatings)

The District adopted District Rule 4601 on April 11, 1991, and subsequently amended it six times. This rule reduces VOC emissions from sources subject to this rule by establishing VOC content limits for architectural coatings. Rule 4601 is applicable to any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends, or repackages any architectural coating for use within the District. The purpose of this rule is to limit VOC emissions from these sources. Rule 4601 specifies VOC coating limits from CARB's 2019 SCM. The SJVAPCD was the first air district in California to adopt the provisions of the 2019 SCM.

As discussed in Section 4.2, the District has already adopted a contingency measure within Rule 4601 that would remove the small container exemption for certain coatings upon a contingency measure trigger.

While Rule 4601 is as stringent as or more stringent than rules in other regions, the District conducted a further analysis for potential contingency measure opportunities for this source category. Through this analysis, the District found that the rust preventative coatings small container exemption could also be lifted as part of the contingency measure. The District commits to amend Rule 4601 within one year of EPA final approval of this commitment, to incorporate rust preventative coatings within the contingency measure provision. Additionally, as part of this amendment, the District commits to add a contingency trigger for the 2015 8-hour ozone standard within this provision.

[40] ICAPCD. *Rule 217 Large Confined Animal Facilities*. (Revised February 9, 2016). Retrieved from: https://apcd.imperialcounty.org/wp-content/uploads/2020/01/1RULE217.pdf

Rule 4603 (Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts)

District Rule 4603 (last amended on September 17, 2009) controls VOC emissions from the coating of miscellaneous metal parts and products (including large appliances and metal furniture), plastic parts and products (including automotive/transportation and business machines), and pleasure crafts. The rule also controls VOC emissions from organic solvent cleaning, storage and disposal of solvents, and waste solvent materials associated with such coating operations.

Rule 4603 establishes VOC content limits for coatings used in the manufacturing and fabrication of metal parts and products as well as separate VOC limits for coatings used in large appliances and metal furniture. Except for large appliances or metal furniture, the general VOC limits for baked coatings and for air-dried coatings are 275 grams/liter (2.3 pounds/gallon) and 340 grams/liter (2.8 pounds/gallon), respectively. Except for large appliances or metal furniture coating operations, the VOC limits for specialty coatings range from 360 grams/liter (3.0 pounds/gallon) to 880 grams/liter (7.3 pounds/gallon) for baked coatings and 420 grams/liter (3.5 pounds/gallon) to 880 grams/liter (7.3 pounds/gallon) for air-dried coatings, depending on the coating type. For large appliances or metal furniture coating operations, the coating VOC limits range from 275 grams/liter (2.3 pounds/gallon) to 420 grams/liter (3.5 pounds/gallon) depending on the type of coating and whether baked or air-dried. The VOC content limit for organic solvent cleaning materials is 25 grams/liter (0.2 pounds/gallon).

Rule 4603 also establishes VOC content limits for coatings used in the manufacturing and fabrication of plastic parts and products as well as separate VOC limits for automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations at a stationary source with total VOC emissions of greater than 2.7 tons per 12-month rolling period. Except for automotive/transportation and business machine plastic parts and products, the VOC limits of the coatings range from 280 grams/liter (2.3 pounds/gallon) to 800 grams/liter (6.7 pounds/gallon) depending on the coating type. For automotive/transportation and business machine plastic parts and products coating operations, the coating VOC limits range from 350 grams/liter (2.9 pounds/gallon) to 620 grams/liter (5.2 pounds/gallon) depending on the type of coating and whether it is baked or air-dried. For pleasure craft coating operations, the coating VOC limits range from 330 grams/liter (2.8 pounds/gallon) to 780 grams/liter (6.5 pounds/gallon) depending on the type of coating.

While Rule 4603 is as stringent as rules in other regions, the District conducted a further analysis for potential contingency measure opportunities for this source category. Through this evaluation, the District found that SCAQMD Rule 1107 and SMAQMD Rule 451 contain limits of 200 g/L for stripping agents used for metal parts and products, while District Rule 4603 exempts the stripping of cured coatings, cured adhesives, and cured inks, except the stripping of such materials from spray application equipment (Section 4.12). Based on the District's analysis, we found it feasible to remove the exemption for these stripping agents, and therefore commit to amend Rule 4603 within

one year of EPA final approval of this commitment, to include a contingency measure within the rule that, if triggered, would remove the exemption for stripping agents for metal parts and products, and subject those stripping agents to a limit of 200 g/L. Exemption 4.12 in Rule 4603 would continue to apply to other stripping agents not used for metal parts and products.

Rule 4604 (Can and Coil Coating Operations)

District Rule 4604 applies to can and coil coating operations, and to organic solvent cleaning, storage and disposal associated with can and coil coating operations. The rule limits the VOC content of different compliant coatings and allows the use of non-compliant coatings with an emission control device to reduce VOC emissions. These conditions also include alternative emission control plans. The emission control system or alternative emission control plan must reduce emissions to no more than the amount of VOCs that would have been emitted had rule-compliant coatings been used. The rule contains provisions for organic solvent cleaning, organic solvent storage, disposal requirements, application methods for coatings, monitoring, and recordkeeping.

While Rule 4604 is as stringent as rules in other regions, the District conducted a further analysis for potential contingency measure opportunities for this source category. The District further evaluated limits implemented in other regions and identified lower limits for organic solvents used for cleaning of coating application equipment, sheet coaters for three-piece cans. Specifically, SMAQMD and SCAQMD include limits of 25 g/L for these solvents. Based on the District's analysis, we found it feasible to lower the limit for these solvents, and therefore, the District commits to amend Rule 4604 within one year of EPA final approval of this commitment, to include a contingency measure that, if triggered, would lower the limit for organic solvents used for cleaning of coating application equipment, sheet coaters for three-piece cans from the existing limit of 250 g/L to 25 g/L.

Rule 4605 (Aerospace Assembly and Component Coating Operations)

District Rule 4605, amended on June 16, 2011, limits VOC emissions from aerospace coatings and adhesives, the organic solvent cleaning, and the storage and disposal of solvents and waste solvent materials associated with the use of aerospace coatings and adhesives and provides the administrative requirements for recording and measuring the emissions. This rule applies to the manufacturing, assembling, coating, masking, bonding, paint stripping, surface cleaning, service, and maintenance of aerospace components, the cleanup of equipment, and the storage and disposal of solvents and waste solvent materials associated with these operations.

The District further evaluated potential contingency measures for this category, however, given that sources under this rule emit 0.011 tpd of VOC emissions (0.004% of the entire VOC emissions inventory), any additional reductions would be insignificant. Therefore, the District did not identify any contingency measure opportunities under this source category.

Rule 4653 (Adhesives and Sealants)

District Rule 4653 sets VOC content limits for adhesive products, sealant products, and associated solvent cleaning operations. This rule is applicable to any person who supplies, sells, offers for sale, or applies any adhesive product, sealant product, or associated solvent, used within the District. The District amended Rule 4653 on September 16, 2010, to incorporate more stringent VOC limits for adhesives enforced in several other air districts, and add sealant products to rule requirements.

While Rule 4653 is as stringent as or more stringent than rules in other regions, the District conducted a further analysis for potential contingency measure opportunities for this source category. Specifically, Rule 4653 contains a limit of 510 g/L for PVC welding adhesives. Through this evaluation, the District found that EPA's CTG for this source category contains a limit of 500 g/L. Based on the District's analysis, we found it feasible to lower the limit for this adhesive, and therefore, the District commits to amend Rule 4653 within one year of EPA final approval of this commitment, to include a contingency measure within the rule that, if triggered, would lower the VOC limit for PVC welding adhesives in Rule 4653 to 500 g/L.

Rule 4663 (Organic Solvent Cleaning, Storage, and Disposal)

District Rule 4663, amended on September 20, 2007, controls VOC emissions from organic solvent cleaning outside a degreaser (tank, tray, drum, or other container) as well as storage and disposal of the solvents.

District Rule 4663 has solvent VOC content requirements for general product cleaning or surface preparation, repair and maintenance cleaning, and cleaning of coating/adhesive application equipment (all 25 g-VOC/L), as well as specific other categories (ranging from 100-800 g-VOC/L) or an equivalent control system with no less than 90% overall control for the emissions generated. The rule also requires containers for solvent storage and disposal.

While Rule 4663 is as stringent as or more stringent than rules in other regions, the District conducted a further analysis for potential contingency measure opportunities for this source category. Through this evaluation, the District identified that other areas such as SCAQMD and SMAQMD include limits of 200 g/L in their respective rules for organic solvents used for sterilization of food and manufacturing processing equipment. Comparatively, Rule 4663 does not include a limit for these solvents. Based on the District's analysis, we found it feasible to add a limit for these solvents, and therefore, the District commits to amend Rule 4663 within one year of EPA final approval of this commitment, to include a contingency measure within the rule that, if triggered, would establish a limit of 200 g/L for organic solvents used for sterilization of food and manufacturing processing equipment.

Rule 4684 (Polyester Resin Operations)

District Rule 4684 applies to commercial and industrial polyester resin operations, organic solvent cleaning, and the storage and disposal of all solvents and waste solvent materials associated with such operations. The polyester resin users typically make composite materials by mixing the resin with glass fiber to make a product. This rule also covers manufacturers of boats and yachts as well as those making fiberglass shower units. Polyester resin operations that use less than 20 gallons per month are exempt from the requirements of this rule.

The District further evaluated potential contingency measures for this category; however, given that sources under this rule emit 0.169 tpd of VOC emissions (0.05% of the entire VOC emissions inventory), any additional reductions would be insignificant. Therefore, the District did not identify any contingency measure opportunities under this source category.

Rule 4694 (Wine Fermentation and Storage Tanks)

The purpose of District Rule 4694 is to reduce VOC emissions from the fermentation and bulk storage of wine, or achieve equivalent reductions from alternative emission sources. The rule requires facilities to reduce the VOC emissions from fermentation by 35% of their baseline emissions annually. Tanks over 5,000 gallons in volume must be equipped with pressure/vacuum relief valves operating within 10% of the maximum allowable working pressure of the tank, and the temperature of stored wine maintained at or below 75 degrees Fahrenheit. The rule exempts storage tanks constructed primarily of concrete or wood and wineries that emit less than 10 tons of VOC per year.

Controlling VOC emissions (primarily ethanol) from wine fermentation can be accomplished by the use of specially designed, fully enclosed fermenters ducted to a VOC emission control device such as an aqueous scrubber, a chilled vapor condenser, or a regenerative thermal oxidizer. Activated carbon has a very low affinity for ethanol, so it is not considered to be an optimal control technology for wine fermentation emissions.

The District conducted a comprehensive analysis to evaluate and identify all potential additional control opportunities for wine fermentation in the San Joaquin Valley. Notably, BAAQMD, Monterey Bay Air Resources District, SMAQMD, San Luis Obispo County APCD, SBCAPCD, Ventura County APCD, and SCAQMD do not have an analogous rule for this source category.

Although other areas do not have analogous rules applicable to this source category, in 2017, SBCAPCD issued an Authority to Construct permit (ATC 15044) to the Santa Maria Winery (formerly known as Central Coast Wine Services (CCWS)) which required their wine fermentation tanks to be vented to a chilled water scrubber system during fermentation operations. Furthermore, in 2018 SBCAPCD published BACT guideline

4.1 for closed-top wine fermentation tanks with capacities ≤ 30,000 gallons which established the following Achieved-in-Practice requirement:

- 67.0% combined capture and control efficiency averaged over length of the fermentation season (mass balance basis)

Although the majority of the wine fermentation tanks within the San Joaquin Valley are significantly greater than 30,000 gallons in capacity, the District is evaluating the control requirements listed in SBCAPCD BACT guideline 4.1 as well as the installation upon which this BACT guideline is based in order to determine if these emission control requirements can be considered feasible for the wine fermentation tanks in the San Joaquin Valley.

As part of a recent permit application evaluation process, the District reached out to a wine fermentation facility regarding SBCAPCD's BACT guideline 4.1 requirements for wine fermentation tanks. In response, the facility contended that there are significant differences between their wine making operations and those of the Santa Maria Winery which must be considered as part of the District's achieved in practice determination for wine fermentation controls. To support their assertion, the facility provided information qualitatively explaining key differences between the Santa Maria Winery and their winery; in particular, they highlighted differences in winery design and operation, physical location and environment, appellation (i.e., location where grapes are grown), fermentation and pumpover practices, and fermentation vessel size, all of which contribute to fermentation conditions at the San Joaquin Valley winery that are significantly different from those at the Santa Maria Winery.

Upon District review and comment on their supplemental information, the facility provided further information to quantitatively support their contention that there are significant differences in fermentation conditions between the two wineries. Specifically, the facility provided a wine fermentation kinetics modeling analysis that predicts total exhaust flow rates from wine fermentation tanks under the facility's wine fermentation style and from the Santa Maria Winery wine fermentation style. Because neither the Santa Maria Winery nor the vendor for the NoMoVo scrubber emission control devices used at the Santa Maria Winery has real time data on the exhaust flow rates from the fermenters, this kinetic fermentation modeling data was very important for the District's analysis to compare the quantitative differences between these two wineries.

Using this information, the District assessed the winery operations and fermentation conditions to see if this level of control can be considered feasible for the wine fermentation conditions expected for the San Joaquin Valley wine fermentation tanks.

Feasibility Analysis

Based on recent permitting projects, the District has more quantitative information with which to evaluate how the differences in wine making practices (e.g., fruit receiving and processing temperatures, sugar content, temperature maintained throughout the

fermentation process, and the overall duration of the fermentation cycle) affect the wine tank fermentation conditions.

As far as the District is aware, wineries in the San Joaquin Valley receive grapes with a temperature of 80°F, whereas the Santa Maria Winery receives grapes with a temperature of 50°F. With a grape temperature of 80°F and sugar content of 25.5°Brix, San Joaquin Valley wineries must start fermentation immediately because any delay in the onset of fermentation could adversely affect the quality of the fruit and the resulting wine product. As far as the District is aware, the fermentation cycle for most San Joaquin Valley wineries lasts from 4 to 7 days. In contrast, the Santa Maria Winery "cold soaks" their grapes (i.e., holds the grape juice in a chilled aqueous solution to delay the onset of fermentation so as to further extract color and flavor from the grape skins, pulp, and seeds, collectively referred to as "must") for a certain amount of time prior to fermentation and then inoculates the grapes with yeast to initiate fermentation to heat the "must" from 50°F to 75°F. In doing so, the sugar content drops from 24.5°Brix to 13.7°Brix. The Santa Maria Winery fermentation cycle lasts from 7 to 14 days and this longer fermentation cycle, together with their cold soak practice, allows the Santa Maria Winery the flexibility to manage their fermentation operations to keep the peak flow rates from their fermenters within the design parameters of the NoMoVo scrubber emission control system serving their fermentation tank batteries.

Since most San Joaquin Valley wineries conduct fermentation immediately upon grape harvest, and at a higher sugar concentration, higher temperature, and shorter fermentation cycle duration than the Santa Maria Winery, San Joaquin Valley wineries' fermentation process is expected to have significantly higher peak flow rates from the same fermentation volumes compared to the Santa Maria Winery's method of fermentation. It is the District's understanding that most San Joaquin Valley winemaking operations are not designed to use a cold soaking process, and doing so would require significant changes to their entire winery and could significantly alter the color and flavor characteristics of the wines they produce. Consequently, the District has concluded that cold soaking grapes to reduce the starting fermentation temperature and thus reducing peak fermentation flow rates is not a feasible option for San Joaquin Valley wineries. The District has requested data for the actual inlet flow rates to each NoMoVo system during fermentation from NohBell Corporation (the NoMoVo scrubber vendor) and the Santa Maria Winery (via SBCAPCD staff). However, neither the Santa Maria Winery nor the NoMoVo scrubber vendor has provided actual flow rate data under actual fermentation conditions. SBCAPCD does not require Santa Maria winery to keep such records.

In the absence of this actual total flow rate data, the District relied on a fermentation kinetic model to compare the total gas flow rates from fermentation operations at each winery. The fermentation kinetic model showed that 19,980 gallons of red grape must processed in two 75-ton fermenters at Santa Maria Winery would result in a peak flow rate of 68 acfm, whereas the same 19,980 gallon volume of grape must fermented in a single 100-ton fermenter at an example San Joaquin Valley winery results in a peak flow rate of 188 acfm, approximately a 3 times higher peak flow rate than the largest

fermenters at Santa Maria Winery. The fermentation kinetic model was also used to determine the total combined flow rate from system #4, which has the largest connected fermentation tank volume at the Santa Maria winery. For modeling purposes, a red grape must throughput of 52,500 gallons (maximum processed in 2019) was assumed to be fermented in four 75-ton fermenters in system #4, the largest fermenters at the Santa Maria Winery. Due to the limited crushing capacity at the Santa Maria winery, the onset of fermentation was conservatively assumed to be staggered by 2 hours in each fermenter (it takes approximately one hour to inoculate each tank with yeast, and 24-72 hours from crush to inoculation, with 7-14 days for the red wine fermentation cycle duration). The peak flow rate from all four 75-ton fermenters in this scenario was found to be 164 acfm, which is still below the 188 acfm peak flow from a single 100-ton fermenter processing only 19,980 gallons of grape must at the example San Joaquin Valley winery.

Furthermore, based on the District's research, San Joaquin Valley winemaking practice involves the use of fresh grapes that are harvested, crushed and loaded into the fermentation tanks as quickly as possible such that all loaded tanks are inoculated with yeast and begin fermentation at nearly the same time, and the fermentation cycle completes within 4-7 days. As stated earlier, San Joaquin Valley wineries cannot hold the grapes in a cold soak for an extended period of time prior to yeast inoculation, nor can they extend their fermentation cycle duration by starting at a lower yeast inoculation temperature (like Santa Maria Winery does), and they cannot delay fermentation from one tank to another due to the higher temperatures of their grapes, as allowing grapes at 80°F with a sugar content of 25.5°Brix to sit in the fermenter for a period of time without yeast inoculation can adversely affect the quality of the produced wine. As mentioned earlier, based on its research, the District has concluded that the use of chilled water to maintain the grape must at a low temperature to intentionally delay fermentation and to reduce peak flow rates during the fermentation cycle is not an option for San Joaquin Valley vineyards, as adopting this practice would result in a significant deviation from their historical wine making practice, requiring a significant redesign of their wine making operations, and would significantly alter the color and flavor profile of the wines they produce. Furthermore, this would likely require significant increases in chilling capacity at San Joaquin Valley wineries when compared to Santa Maria Winery, since the ambient temperatures during grape harvest, crush, and fermentation are much higher in the central valley than on the central coast.

The Santa Maria winery has ten tank batteries, each served by a single NoMoVo scrubber system. System #4 is the largest tank battery at the Santa Maria winery (total connected tank volume of 252,687 gallons) and it is served by a NMV4-2448 scrubber unit. As previously discussed, the kinetic models predict the peak flow rates generated by the largest tank battery (system #4) at the Santa Maria winery are much lower than that from a single fermenter in the San Joaquin Valley facilities. Furthermore, according to the vendor, the largest NoMoVo scrubber available (NVM4-2448) is rated to handle flow rates up to 215 acfm. As mentioned earlier, the expected fermentation gas flow rate from a single fermenter at an example San Joaquin Valley winery is 188 acfm, so the combined flow rate from just two of their fermenters would exceed the design

capacity of the largest available NoMoVo scrubber. Furthermore, as discussed earlier, the District has concluded that most San Joaquin Valley wineries are unable to use wine making practices such as cold soaking grapes in order to reduce the starting fermentation temperature and increase the fermentation cycle duration in order to reduce the peak flow rates from their fermenters. Therefore, at this time, the District cannot conclude that the level of VOC emissions control achieved by the NoMoVo scrubber systems used on the tank batteries at the Santa Maria winery has been demonstrated at similar fermentation conditions (i.e., fermentation gas flow rates) expected at San Joaquin Valley wineries.

Moreover, the NoMoVo scrubber emission control system has not been deployed at a winery permitted in the San Joaquin Valley, and the District is not aware of any installations at any other winery outside of the Santa Maria winery. Given the discussion above, it is likely that the fermentation flow rates from wine fermenters in the San Joaquin Valley would overwhelm even the largest NoMoVo scrubber. Therefore, it is unknown at this time if the NoMoVo emission control system, as implemented at the Santa Maria winery, would effectively control VOC emissions under the fermentation conditions expected at wineries in the San Joaquin Valley.

Evaluation Conclusion

As discussed above, given the differences in regional practices and climate temperatures, deploying control technology on wine fermenters in the San Joaquin Valley would likely require significant modifications to historical practices, and could have adverse impacts on the color and quality of the wine. Additionally, at this time, no fermentation emission control systems have been deployed at a winery permitted in the San Joaquin Valley, and the District is not aware of any installations of fermentation emissions controls at any other winery outside of the Santa Maria winery. Therefore, the level of fermentation VOC emissions control achieved by the NoMoVo scrubber systems at the Santa Maria winery has not been demonstrated at similar fermentation conditions (i.e. fermentation flow rates) expected at San Joaquin Valley wineries.

Additionally, the majority of the wineries in the San Joaquin Valley have Federally Mandated operating permits. As such, any permitting action of the scale necessary to implement emission controls on all of a facility's wine fermenters could take up to six months. Furthermore, the time needed for the necessary construction activities such as engineering, redesigning facilities, procuring materials, equipment, utilities, scheduling contractors, and installing and testing the fermentation controls would likely take over two years to complete. Given the fact that stationary sources are prohibited from making any modifications to their operations until after they receive a pre-construction authorization permit and considering the time facilities would need to implement the controls, it is highly unlikely that substantive VOC emission reductions could be achieved within 2 years.

The District concludes that this control measure is not an appropriate contingency measure because the most stringent feasible controls are already in place, additional

control technologies have not been proven at wineries such as those in the San Joaquin Valley, and a contingency trigger is incompatible with the technologies involved in reducing emissions from this category.

6. SUMMARY OF CONTINGENCY MEASURE REDUCTIONS

As discussed above, the District and CARB have existing contingency measures for architectural coatings and the Smog Check program. Additionally, as presented in Section 5.12, the District has identified a number of additional contingency measure commitments for the 2008 and 2015 8-hour ozone standards, as summarized below:

- **Rule 4601:** The District commits to amend Rule 4601 within one year of EPA final approval of this commitment, to incorporate rust preventative coatings within the contingency measure provision. Additionally, as part of this amendment, the District commits to add a contingency trigger for the 2015 8-hour ozone standard within this provision.
- **Rule 4603:** The District commits to amend Rule 4603 within one year of EPA final approval of this commitment, to include a contingency measure within the rule that, if triggered, would remove the exemption for stripping agents for metal parts and products, and subject those stripping agents to a limit of 200 g/L.
- **Rule 4604:** The District commits to amend Rule 4604 within one year of EPA final approval of this commitment, to include a contingency measure that, if triggered, would lower the limit for organic solvents used for cleaning of coating application equipment, sheet coaters for three-piece cans from the existing limit of 250 g/L to 25 g/L.
- **Rule 4653:** The District commits to amend Rule 4653 within one year of EPA final approval of this commitment, to include a contingency measure within the rule that, if triggered, would lower the VOC limit for PVC welding adhesives in Rule 4653 to 500 g/L.
- **Rule 4663:** The District commits to amend Rule 4663 within one year of EPA final approval of this commitment, to include a contingency measure within the rule that, if triggered, would establish a limit of 200 g/L for organic solvents used for sterilization of food and manufacturing processing equipment.

Based on the evaluation of potential contingency measures that could contribute towards the Valley meeting CAA requirements, the following table summarizes and compares the emission reduction requirements under the OYW_P approach. Notably, the reductions achieved through the above committed to rule amendments would not result in significant emissions reductions, as these rules comprise less than 1% of the VOC emissions inventory in the Valley. Therefore, the reductions for these additional commitments have not been quantified, and the reductions in the table below do not include reductions from these measures, though the reductions would assist in additional VOC reductions contributing towards the OYW_P.

Table 10 District and CARB Contingency Measure Emission Reductions

Ozone Standard	VOC (tpd)		NOx (tpd)	
	OYW_P Approach	Selected Measures	OYW_P Approach	Selected Measures
2008 8-hour	1.87	0.675	4.22	0.079
2015 8-hour	1.65	0.354	2.29	0.076

As demonstrated above, the District and CARB are currently implementing the most stringent measures feasible for all NOx and VOC rules, and no opportunities exist for additional contingency measures beyond the adopted measure in District Rule 4601 CARB's smog check measure, and the rule commitments identified. This supports a reasoned justification for achieving less than OYW_P.

7. FEDERAL CONTINGENCY MEASURE OPPORTUNITIES

The District has previously submitted petitions to the federal government requesting that they reduce their fair share of emissions in an equitable manner through more stringent national standards for heavy-duty trucks and locomotives.[41] In response to the District and similar petitions submitted by CARB and SCAQMD, EPA proposed on March 28, 2022, and finalized on December 20, 2022, a rule to reduce emissions from new heavy-duty trucks nationwide[42,43]. In addition, in November 2022, and in response to the District's petition, EPA committed to conducting regulatory analyses to consider the potential of setting a national standard for locomotives.[44]

Subsequently, on April 12, 2023, EPA issued a Notice of Proposed Rulemaking to propose more stringent standards to reduce greenhouse gas emissions from heavy-duty vehicles beginning in model year 2027.[45] As part of this action, EPA also proposed revisions to its regulations addressing preemption of state regulation of locomotives, which were finalized on November 8, 2023.[46]

[41] SJVAPCD. *Petition Requesting that EPA Adopt New National Standards for On-Road Heavy-Duty Trucks and Locomotives under Federal Jurisdiction.* Retrieved from: https://www.epa.gov/sites/default/files/2016-11/documents/san_joaquin_valley_petition_for_hd_and_locomotive.pdf
[42] EPA. *Proposed Rule and Related Materials for Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards.* Retrieved from: https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-and-related-materials-control-air-1
[43] EPA. *Final Rule and Related Materials for Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards.* Retrieved from: https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-and-related-materials-control-air-pollution
[44] EPA. *Letter to San Joaquin Valley Air Pollution Control District from the U.S. Environmental Protection Agency.* Retrieved from: https://www.epa.gov/system/files/documents/2022-11/locomotive-regs-sanjoaquin-regs-petition-response.pdf
[45] EPA. *Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles—Phase 3.* Retrieved from: https://www.govinfo.gov/content/pkg/FR-2023-04-27/pdf/2023-07955.pdf
[46] EPA. *Locomotives and Locomotive Engines: Preemption of State and Local Regulations*. Retrieved from: https://www.regulations.gov/document/EPA-HQ-OAR-2022-0985-2682

The District continues to participate in this regulatory process to communicate the Valley's need for emissions reductions from these sectors. While the above strategies, if finalized by EPA, would reduce emissions in the long-term, they do not assist the District and CARB in addressing needed contingency measures for the following reasons:

- The proposed measures are currently under development and will take several years for promulgation (if promulgated). In addition to the lengthy period to promulgate the measures, emissions reductions from these measures will be realized in the long-term over an extended period, and not in the rapid, trigger-based, and short-term fashion required for contingency measures.
- EPA's recently promulgated or proposed mobile source emissions standards are not designed to serve as contingency measures. Without meeting all of the requirements for contingency measures (held in reserve, triggered upon various CAA findings, etc.), federal mobile source regulatory measures currently under development will not assist in addressing contingency measure requirements.

Significant State and Federal Funding Opportunities

Through strong collaboration with state agencies and residents, businesses, public agencies, community-based organizations, and other stakeholders, the San Joaquin Valley has served as a center of innovation for many of the state's recent transformative clean air, low carbon strategies. As a related important opportunity that could play a major role in assisting the San Joaquin Valley and other Extreme ozone and Serious PM2.5 nonattainment areas, recent state and federal budget and funding actions have created unprecedented opportunities for investing in transformational clean technology changes across the mobile source sector. At the federal level, recent authorizations under the Infrastructure Investment Jobs Act and Inflation Reduction Act (IRA) provide wide-ranging funding for a variety of important clean technology and infrastructure programs. Notably, IRA includes an estimated $369 billion in funding for climate and energy-related programs, and over $20 billion in new funding for sustainable agriculture and programs of importance to the San Joaquin Valley. Given the Valley's air quality challenges, EPA and other federal agencies must prioritize these new funding opportunities for Serious and Extreme nonattainment areas, and provide opportunities for incentive-based contingency measures, taking into consideration that areas such as the Valley have limited additional opportunities for regulatory strategies given the level of stringency of District rules.

8. PUBLIC COMMENT PERIOD

This *Ozone Contingency Measure SIP Revision* was prepared through a public process, including updates provided at District Governing Board meetings, Citizens Advisory Committee (CAC) meetings, and Environmental Justice Advisory Group (EJAG) meetings. During these meetings, the public had the opportunity to provide comment, ask questions, or request additional information. Additionally, the District published the proposed SIP revision for 30-day public review ahead of the public hearing on April 25, 2024.

9. ENVIRONMENTAL IMPACT ANALYSIS

According to Section 15061 (b)(3) of the CEQA Guidelines, a project is exempt from CEQA if, "(t)he activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." As such, substantial evidence supports the District's assessment that the SIP revision will not have any significant adverse effects on the environment.

Furthermore, the State Implementation Plan (SIP) revision is an action taken by a regulatory agency, the San Joaquin Valley Air Pollution Control District, as authorized by state law to assure the maintenance, restoration, enhancement, or protection of air quality in the San Joaquin Valley where the regulatory process involves procedures for protection of air quality. CEQA Guidelines §15308 (Actions by Regulatory Agencies for Protection of the Environment), provides a categorical exemption for "actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environmental degradation are not included in this exemption." No construction activities or relaxation of standards are included in this SIP revision.

Therefore, for all the above reasons, the SIP revision is exempt from CEQA. Pursuant to Section 15062 of the CEQA Guidelines, District staff will file a Notice of Exemption upon Governing Board approval of the SIP revision.

10. CONCLUSION

Both the District and CARB have decades of experience developing stringent regulations and, as a result, have robust control programs which limit the ability to identify potential contingency measures that achieve surplus reduction. Beyond the wide array of sources the District and CARB have been regulating over the last few decades, and especially considering those they are driving to zero-emission, there are

few sources of emissions left for the District and CARB to implement additional controls upon under their authorities. The few source categories that do not have control measures are primarily-federally and internationally regulated.

To fulfill contingency measure requirements, the District has previously adopted a contingency measure in Rule 4601 (Architectural Coatings). CARB has also adopted a contingency measure that would strengthen their Smog Check inspection exemptions of California's Smog Check Program. Additionally, as summarized in Section 6, the District has included a number of commitments in this package to amend rules to incorporate contingency provisions for the 2008 and 2015 8-hour ozone standards. As shown above, the District and CARB are implementing the most stringent measures available and have analyzed all emission sources able to satisfy contingency requirements as outlined in EPA's *Draft Guidance*.

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APPENDIX A

Emissions Inventory Crosswalk

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Table 1 EICs Contributing >1% of 2012 Baseline NOx Inventory

EIC	Source Category	Subcategory	Material Code	NOx (tpd)	NOx (% of inventory)	Emission Source or Applicable Rule
728- 764- 1210- 7067	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	26.159	8.42%	CARB
728- 764- 1210- 7068	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	23.550	7.58%	Federal Government
728- 764- 1210- 7078	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	20.794	6.70%	CARB
870- 893- 1210- 0335	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	11.723	3.77%	CARB
728- 764- 1210- 7069	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	11.590	3.73%	Federal Government
870- 893- 1210- 0365	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	10.035	3.23%	CARB
870- 893- 1210- 0350	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	10.013	3.22%	CARB
052- 042- 1200- 0010	052-FOOD AND AGRICULTURAL PROCESSING	042-AG. IRRIGATION I.C. ENGINES	1200-DIESEL/DISTILLATE OIL (UNSPECIFIED)	9.364	3.01%	4702
820- 827- 1210- 0000	820-TRAINS	827-LOCOMOTIVES - CLASS 1 LINE HAUL	1210-DIESEL (UNSPECIFIED)	9.340	3.01%	Federal Government
725- 764- 1210- 0000	725-LIGHT HEAVY DUTY TRUCKS - 1 (LHDT1)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	8.410	2.71%	CARB
710- 734- 1100- 0000	710-LIGHT DUTY PASSENGER (LDA)	734-CATALYST HOT STABILIZED EXHAUST	1100-GASOLINE (UNSPECIFIED)	7.632	2.46%	CARB
870- 893- 1210- 0322	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	6.426	2.07%	CARB
724- 734- 1100- 0000	724-MEDIUM DUTY TRUCKS (MDV)	734-CATALYST HOT STABILIZED EXHAUST	1100-GASOLINE (UNSPECIFIED)	6.324	2.04%	CARB
723- 734- 1100- 0000	723-LIGHT DUTY TRUCKS - 2 (LDT2)	734-CATALYST HOT STABILIZED EXHAUST	1100-GASOLINE (UNSPECIFIED)	5.499	1.77%	CARB
052- 042- 1200- 0011	052-FOOD AND AGRICULTURAL PROCESSING	042-AG. IRRIGATION I.C. ENGINES	1200-DIESEL/DISTILLATE OIL (UNSPECIFIED)	4.592	1.48%	4702

EIC	Source Category	Subcategory	Material Code	NOx (tpd)	NOx (% of inventory)	Emission Source or Applicable Rule
870- 893- 1210- 0375	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	4.236	1.36%	CARB
460- 460- 7039- 0000	460-GLASS AND RELATED PRODUCTS	460-GLASS MANUFACTURING	7039-FLAT GLASS	3.556	1.14%	4354

Table 2 EICs Contributing >1% of 2012 Baseline VOC Inventory

EIC	Source Category	Subcategory	Material Code	VOC (tpd)	VOC (% of inventory)	Emission Source or Applicable Rule
620- 618- 0263- 0000	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0263-SILAGE (UNSPECIFIED)	39.264	11.34%	4570
620- 618- 0262- 0101	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0262-AGRICULTURAL WASTE	34.544	9.97%	4570
199- 170- 0260- 0000	199-OTHER (WASTE DISPOSAL)	170-COMPOSTING	0260-BIOLOGICAL WASTE (UNSPECIFIED)	20.725	5.98%	4565/4566
530- 530- 5702- 0000	530-PESTICIDES/FERTILIZERS	530-AGRICULTURAL PESTICIDES	5702-NON - METHYL BROMIDE PESTICIDES	14.763	4.26%	CARB
620- 618- 0262- 0104	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0262-AGRICULTURAL WASTE	7.980	2.30%	4570
670- 666- 0200- 0000	670-MANAGED BURNING AND DISPOSAL	666-FOREST MANAGEMENT	0200-SOLID FUEL (UNSPECIFIED)	7.206	2.08%	4106
420- 410- 6090- 0000	420-FOOD AND AGRICULTURE	410-WINE AGING	6090-WINE	6.849	1.98%	4695
299- 995- 3158- 0000	299-OTHER (CLEANING AND SURFACE COATINGS)	995-OTHER	3158-ETHYLENE OXIDE	5.071	1.46%	*
620- 618- 0262- 0103	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0262-AGRICULTURAL WASTE	5.045	1.46%	4570
710- 742- 1100- 0000	710-LIGHT DUTY PASSENGER (LDA)	742-CATALYST DIURNAL	1100-GASOLINE (UNSPECIFIED)	4.707	1.36%	CARB
840- 864- 1100- 6736	840-RECREATIONAL BOATS	864-RECREATIONAL BOATS	1100-GASOLINE	4.383	1.27%	CARB
240- 995- 8000- 0000	240-PRINTING	995-OTHER	8000-SOLVENTS (UNSPECIFIED)	4.198	1.21%	4607
840- 864- 1100- 6664	840-RECREATIONAL BOATS	864-RECREATIONAL BOATS	1100-GASOLINE	3.928	1.13%	CARB
710- 731- 1100- 0000	710-LIGHT DUTY PASSENGER (LDA)	731-CATALYST STARTS	1100-GASOLINE (UNSPECIFIED)	3.797	1.10%	CARB
420- 408- 6090- 0000	420-FOOD AND AGRICULTURE	408-WINE FERMENTATION	6090-WINE	3.699	1.07%	4694

* *Represent emissions from the use of unspecified coatings and cleaning solvents not inventoried by any point or area source EIC. Sources subject to various District rules.*

Table 3 EICs Contributing >1% of 2017 Baseline NOx Inventory

EIC	Source Category	Subcategory	Material Code	NOx (tpd)	NOx (% of inventory)	Emission Source or Applicable Rule
728- 764- 1210- 7068	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	13.241	5.76%	Federal Government
728- 764- 1210- 7067	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	12.441	5.41%	CARB
728- 764- 1210- 7078	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	11.750	5.11%	CARB
820- 827- 1210- 0000	820-TRAINS	827-LOCOMOTIVES - CLASS 1 LINE HAUL	1210-DIESEL (UNSPECIFIED)	11.515	5.01%	Federal Government
870- 893- 1210- 0335	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	9.558	4.15%	CARB
870- 893- 1210- 0350	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	8.290	3.60%	CARB
870- 893- 1210- 0365	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	8.045	3.50%	CARB
725- 764- 1210- 0000	725-LIGHT HEAVY DUTY TRUCKS - 1 (LHDT1)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	6.530	2.84%	CARB
728- 764- 1210- 7069	728-HEAVY HEAVY DUTY TRUCKS (HHDT)	764-DIESEL HOT STABILIZED EXHAUST	1210-DIESEL (UNSPECIFIED)	5.587	2.43%	Federal Government
870- 893- 1210- 0322	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	5.550	2.41%	CARB
724- 734- 1100- 0000	724-MEDIUM DUTY TRUCKS (MDV)	734-CATALYST HOT STABILIZED EXHAUST	1100-GASOLINE (UNSPECIFIED)	4.608	2.00%	CARB
710- 734- 1100- 0000	710-LIGHT DUTY PASSENGER (LDA)	734-CATALYST HOT STABILIZED EXHAUST	1100-GASOLINE (UNSPECIFIED)	4.247	1.85%	CARB
723- 734- 1100- 0000	723-LIGHT DUTY TRUCKS - 2 (LDT2)	734-CATALYST HOT STABILIZED EXHAUST	1100-GASOLINE (UNSPECIFIED)	3.631	1.58%	CARB
052- 042- 1200- 0011	052-FOOD AND AGRICULTURAL PROCESSING	042-AG. IRRIGATION I.C. ENGINES	1200-DIESEL/DISTILLATE OIL (UNSPECIFIED)	3.581	1.56%	4702
870- 893- 1210- 0375	870-FARM EQUIPMENT	893-AGRICULTURAL EQUIPMENT	1210-DIESEL (UNSPECIFIED)	3.354	1.46%	CARB

EIC	Source Category	Subcategory	Material Code	NOx (tpd)	NOx (% of inventory)	Emission Source or Applicable Rule
860- 884- 1210- 9410	860-OFF-ROAD EQUIPMENT	884-TRANSPORT REFRIGERATION UNITS	1210-DIESEL (UNSPECIFIED)	2.635	1.15%	CARB
052- 042- 1200- 0010	052-FOOD AND AGRICULTURAL PROCESSING	042-AG. IRRIGATION I.C. ENGINES	1200-DIESEL/DISTILLATE OIL (UNSPECIFIED)	2.434	1.06%	4702
670- 660- 0262- 9862	670-MANAGED BURNING AND DISPOSAL	660-AGRICULTURAL BURNING - PRUNINGS	0262-AGRICULTURAL WASTE	2.381	1.04%	4103

Table 4 EICs Contributing >1% of 2017 Baseline VOC Inventory

EIC	Source Category	Subcategory	Material Code	VOC (tpd)	VOC (% of inventory)	Emission Source or Applicable Rule
620- 618- 0263- 0000	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0263-SILAGE (UNSPECIFIED)	39.264	11.70%	4570
620- 618- 0262- 0101	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0262-AGRICULTURAL WASTE	34.544	10.29%	4570
199- 170- 0260- 0000	199-OTHER (WASTE DISPOSAL)	170-COMPOSTING	0260-BIOLOGICAL WASTE (UNSPECIFIED)	20.138	6.00%	4565/4566
530- 530- 5702- 0000	530-PESTICIDES/FERTILIZERS	530-AGRICULTURAL PESTICIDES	5702-NON - METHYL BROMIDE PESTICIDES	20.099	5.99%	CARB
670- 666- 0200- 0000	670-MANAGED BURNING AND DISPOSAL	666-FOREST MANAGEMENT	0200-SOLID FUEL (UNSPECIFIED)	10.906	3.25%	4106
620- 618- 0262- 0104	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0262-AGRICULTURAL WASTE	8.314	2.48%	4570
420- 410- 6090- 0000	420-FOOD AND AGRICULTURE	410-WINE AGING	6090-WINE	7.725	2.30%	4695
299- 995- 3158- 0000	299-OTHER (CLEANING AND SURFACE COATINGS)	995-OTHER	3158-ETHYLENE OXIDE	7.019	2.09%	*
240- 995- 8000- 0000	240-PRINTING	995-OTHER	8000-SOLVENTS (UNSPECIFIED)	5.368	1.60%	4607
620- 618- 0262- 0103	620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0262-AGRICULTURAL WASTE	5.045	1.50%	4570
420- 408- 6090- 0000	420-FOOD AND AGRICULTURE	408-WINE FERMENTATION	6090-WINE	4.364	1.30%	4694
710- 742- 1100- 0000	710-LIGHT DUTY PASSENGER (LDA)	742-CATALYST DIURNAL	1100-GASOLINE (UNSPECIFIED)	3.904	1.16%	CARB

* *Represent emissions from the use of unspecified coatings and cleaning solvents not inventoried by any point or area source EIC. Sources subject to various District rules.*

APPENDIX B

California Smog Check Contingency Measure State Implementation Plan Revision

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California Smog Check Contingency Measure State Implementation Plan Revision

Released: September 15, 2023

Table of Contents

Executive Summary

The *California Smog Check Contingency Measure State Implementation Plan Revision* (Measure) addresses State Implementation Plan (SIP) contingency measure requirements of the federal Clean Air Act (Act) for certain areas designated as nonattainment of the national ambient air quality standards (NAAQS or standards) within the State. This Measure is necessary to address contingency measure requirements and respond to recent court actions to meet statutory deadlines related to contingency measures. This Measure includes an action that is triggered if a nonattainment area fails to attain by the applicable attainment date, fails to meet a reasonable further progress (RFP) milestone, fails to meet a quantitative milestone, or fails to submit a required quantitative milestone report or milestone compliance demonstration (collectively referred to as "Triggering Events").

The Motor Vehicle Inspection and Maintenance Program (Smog Check Program) is a vehicle inspection and maintenance program administered by the California Bureau of Automotive Repair (BAR) that identifies vehicles with faulty emission control components. Smog Check inspections are required biennially as a part of the vehicle registration process and/or when a vehicle changes ownership or is registered for the first time in California. In 2017, Assembly Bill (AB) 1274 added Health and Safety Code (H&SC) § 44011(a)(4)(B)(ii) which allowed vehicles eight or less model-years old to be exempt from requirements for Smog Check inspections. In lieu of an inspection, this law requires seven and eight model-year old vehicles owners to pay an annual Smog Abatement Fee of $25, $21 of which goes to the Air Pollution Control Fund for use to incentivize clean vehicles and equipment through the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program). This law also specifies that this exemption is allowed unless CARB determines that exempting these vehicles prohibits the State from meeting SIP commitments. At that time, the AB 1274 analysis[1] indicated that the emissions reductions from the increase in funding to the Moyer Program would outweigh the benefits of requiring seven and eight model-year old vehicles to obtain a Smog Check inspection.

CARB staff has now determined that removal of these exemptions may be needed to meet the contingency measure SIP requirements. CARB staff has also determined that in all of the relevant nonattainment areas, requiring a Smog Check inspection on eight model-year old vehicles provides more emission reductions than the potential loss in Moyer Program emission reductions that would result from the foregone funding. In 2017, when AB 1274 enacted this change in Smog Check exemptions, the benefit from additional funding for Moyer Program projects was estimated to outweigh the disbenefit from exempting additional vehicles. However, since 2017 the Program has successfully incentivized the

[1] *Bill Analysis - AB-1274 Smog check: exemption. (ca.gov)*

turnover of many dirty engines and equipment and Moyer Program projects are now less cost-effective than before, resulting in a net benefit from this Measure.

If a Triggering Event occurs, the Measure would:

- Change the existing smog check inspection exemptions in the California Smog Check Program in the applicable nonattainment area(s);
- Apply to the California nonattainment area(s) and standard(s) for which the Triggering Event occurs, from those listed on the next page in Table 1.; and
- Be implemented within 30 days of the effective date of a U.S. EPA finding that a Triggering Event occurred.

Seven areas in California under State jurisdiction are designated as nonattainment for the 75 parts per billion (ppb) 8-hour ozone standard, and ten areas in California under State jurisdiction are designated as nonattainment for the 70 ppb 8-hour ozone standard, with classifications of Moderate, Serious, Severe or Extreme. Additionally, the San Joaquin Valley is designated as nonattainment for the 80 ppb 8-hour ozone standard, the 12 microgram per meter cubed ($\mu g/m^3$) annual, 15 $\mu g/m^3$ annual, and 35 $\mu g/m^3$ 24-hour PM2.5 standards. The South Coast Air Basin is also designated as nonattainment for the 12 $\mu g/m^3$ annual PM2.5 standard. For all of these standards, nonattainment areas were or will be required to submit SIP revisions meeting contingency measure and other applicable requirements of the Act.

CARB staff has worked with local air districts to prepare contingency measure SIP revisions which were adopted and submitted to the U.S. Environmental Protection Agency (U.S. EPA) through CARB. Further, in 2018, CARB staff submitted the *2018 Updates to the California State Implementation Plan* (2018 SIP Update) which included a statewide contingency measure that was developed following U.S. EPA guidance available at the time. However, multiple lawsuits challenging U.S. EPA's interpretation of the Act led to U.S. EPA's determination that the previously submitted 2018 SIP Update contingency measures did not fully meet the Act's requirements. CARB staff is now proposing to submit the Measure to be consistent with U.S. EPA's current interpretation of the contingency measure provisions of the Act. The Measure as included in this SIP revision will be applicable for the California nonattainment areas and standards as listed in Table 1.

Table 1. Nonattainment Areas and Applicable Standards

Area	Applicable Standards
Coachella Valley	70 ppb Ozone, 75 ppb Ozone
Eastern Kern County	70 ppb Ozone, 75 ppb Ozone
Mariposa County	70 ppb Ozone
Sacramento Metro Area	70 ppb Ozone, 75 ppb Ozone
San Diego County	70 ppb Ozone, 75 ppb Ozone
San Joaquin Valley	70 ppb Ozone, 75 ppb Ozone, 80 ppb Ozone, 15 $\mu g/m^3$ PM2.5, 35 $\mu g/m^3$ PM2.5, 12 $\mu g/m^3$ PM2.5
South Coast Air Basin	12 $\mu g/m^3$ PM2.5, 70 ppb Ozone, 75 ppb Ozone
Ventura County	70 ppb Ozone
Western Mojave Desert	70 ppb Ozone, 75 ppb Ozone
Western Nevada	70 ppb Ozone

CARB staff initiated the public process with release of a concept document and workshop in August 2023 to solicit input from the public. The concept document and other materials were available in English and Spanish, and the workshop provided a forum in both English and Spanish for the proposed Measure to be discussed in a public setting and provide additional opportunity for public feedback, input, and ideas. CARB staff also analyzed the impacts of the Measure on vehicle owners in disadvantaged communities (DACs). CARB staff compared the proportion of the vehicles subject to the Measure if triggered to those registered in DACs to the proportion of vehicles subject to the Measure in total using DMV data. CARB staff found that, in all nonattainment areas, the proportion of vehicle owners potentially impacted by the Measure, if triggered, is not disproportionate to the population as a whole.

CARB staff has determined that the Measure meets the Act contingency measure requirements and that exercising H&SC § 44011(a)(4)(B)(ii) is needed to meet the SIP requirements.

Further, CARB staff last submitted updates to the Smog Check Program to U.S. EPA for incorporation into the California SIP in 2009 and U.S. EPA approved them on July 1, 2010.[2] As previously mentioned, the additional exemptions from the Smog Check Program were made by AB 1274 in 2017. As a part of this SIP revision, CARB staff is submitting H&SC § 44011(a)(4)(A) and (B) into the California SIP to incorporate these changes in the Smog Check Program.

The Board is scheduled to consider the Measure on October 26, 2023. CARB staff recommends the Board to adopt the Measure addressing contingency measure requirements for the applicable standards and nonattainment areas as listed in Table 1 and approve submittal into the California SIP of California H&SC sections 44011(a)(4)(A) and (B). If adopted, CARB staff will submit the Measure and H&SC sections 44011(a)(4)(A) and (B) to U.S. EPA as a revision to the California SIP.

[2] 75 Fed. Reg. 38023 (July 1, 2010)

Section 1. Contingency Requirements and Litigation

The Clean Air Act ("Act") specifies that SIPs must provide for contingency measures, defined in section 172(c)(9) as "specific measures to be undertaken if the area fails to make reasonable further progress (RFP), or to attain the national primary ambient air quality standard by the attainment date…."[3] The Act is silent though on the specific level of emission reductions that must flow from contingency measures. In the absence of specific requirements for the amount of emission reductions, in 1992, U.S. EPA conveyed that the contingency measures should, at a minimum, ensure that an appropriate level of emissions reduction progress continues to be made if attainment of RFP is not achieved and additional planning by the State is needed (57 Federal Register 13510, 13512 (April 16, 1992)). While U.S. EPA's ozone guidance states "contingency measures should represent one year's worth of progress amounting to reductions of 3 percent of the baseline emissions inventory for the nonattainment area", U.S. EPA has accepted contingency measures that equal less than one year's worth of RFP in some situations. Specifically, U.S. EPA has historically accepted lesser amounts as they see appropriate considering "U.S. EPA's long-standing recommendation that states should consider 'the potential nature and extent of any attainment shortfall for the area' and that contingency measures 'should represent a portion of the actual emissions reductions necessary to bring about attainment in the area.'"[4]

In recent years, court decisions, as described below, have excluded a category of contingency measures from what U.S. EPA may properly approve. Historically, U.S. EPA allowed contingency measure requirements to be met via excess emission reductions from ongoing implementation of adopted emission reduction programs. In the past, CARB used this method to meet contingency measure requirements. In 2016, in *Bahr v. U.S. Environmental Protection Agency*[5] *(Bahr),* the Ninth Circuit determined U.S. EPA erred in approving a contingency measure that relied on an already-implemented measure for a nonattainment area in Arizona, thereby rejecting U.S. EPA's longstanding interpretation of section 172(c)(9) of the Act. U.S. EPA staff interpreted this decision to mean that contingency measures must include a future action triggered by a Triggering Event. This decision was applicable to only the states covered by the Ninth Circuit. In the rest of the country, U.S. EPA still allowed contingency measures using their pre-Bahr stance. In January 2021, in *Sierra Club v. Environmental Protection Agency*[6], the United States Court of Appeals for the D.C. Circuit, ruled that already implemented measures do not qualify as contingency measures for the rest of the country (*Sierra Club*).

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[3] 42 U.S.C. § 7502(c)(9).

[4] See, e.g. 78 Fed.Reg. 37741, 37750 (Jun. 24, 2013), approval finalized with 78 Fed.Reg. 64402 (Oct. 29, 2013).

[5] *Bahr v. U.S. Environmental Protection Agency,* (9th Cir. 2016) 836 F.3d 1218.

[6] *Sierra Club v. Environmental Protection Agency,* (D.C. Cir. 2021) 985 F.3d 1055.

In response to *Bahr* and as part of the 75 ppb 8-hour ozone SIPs due in 2016, CARB staff developed the statewide Enhanced Enforcement Contingency Measure (Enforcement Contingency Measure) as a part of the *2018 Updates to the California State Implementation Plan* to address the need for a triggered action as a part of the contingency measure requirement. CARB staff worked closely with U.S. EPA regional staff in developing the contingency measure package that included the triggered Enforcement Contingency Measure, a district triggered measure and emission reductions from implementing CARB's mobile source emissions program. However, as part of the *San Joaquin Valley 2016 Ozone Plan for 2008 8-hour Ozone Standard* SIP action, U.S. EPA wrote in their final approval that the Enforcement Contingency Measure did not satisfy requirements to be approved as a "standalone contingency measure" and approved it only as a "SIP strengthening" measure[7]. U.S. EPA did approve the San Joaquin Valley Air Pollution Control District triggered measure and the implementation of the mobile reductions along with a CARB emission reduction commitment as meeting the contingency measure requirement for this SIP.

Subsequently, the Association of Irritated Residents filed a lawsuit against the U.S. EPA for its approval of various elements within the *San Joaquin Valley 2016 Ozone Plan for 2008 8--hour Ozone Standard*, including the contingency measure. The Ninth Circuit issued its decision in *Association of Irritated Residents v. EPA*[8] (*AIR*) that U.S. EPA's approval of the contingency element was arbitrary and capricious and rejected the triggered contingency measure that achieves much less than one year's worth of RFP. Most importantly, the Ninth Circuit said that, in line with U.S. EPA's longstanding interpretation of what is required of a contingency measure and the purpose it serves, together with *Bahr*, all reductions needed to satisfy the Act's contingency measure requirements must come from the contingency measure itself. The Ninth Circuit also said that the amount of reductions needed for contingency should not be reduced absent U.S. EPA adequately explaining its change from its historic stance on the amount of reductions required. U.S. EPA staff has interpreted *AIR* to mean that triggered contingency measures must achieve the entirety of the amount of emission reductions needed for the contingency measure requirement on their own. In addition, surplus emission reductions from ongoing programs cannot reduce the amount of reductions needed for the contingency measure requirements.

In response to *Bahr* and *Sierra Club*, in 2021, U.S. EPA convened a nationwide internal task force to develop guidance to support states in their development of contingency measures. The draft guidance was released in March 2023 and is currently undergoing a public review process. The draft guidance proposes a new method for how to calculate one year's worth of progress for the targeted amount of contingency measures reductions and provides new clarification on the reasoned justification U.S. EPA requires to facilitate approval of contingency measures with lesser amounts of reductions. Per the draft guidance, such a

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[7] 87 Fed. Reg. 59688 (October 3, 2022)

[8] *Association of Irritated Residents v. U.S. Environmental Protection Agency*, (9th Cir. 2021) 10 F.4th 937

reasoned justification would need to include an infeasibility analysis detailing why there are insufficient measures to meet one year's worth of progress. U.S. EPA relied on the draft guidance when they proposed a federal implementation plan to meet the PM2.5 contingency measure requirements in the San Joaquin Valley on August 8, 2023[9].

Section 2. CARB's Opportunities for Contingency Measures

Much has changed since U.S. EPA's 1992 guidance on contingency measures. Control programs across the country have matured as have the health-based standards. U.S. EPA strengthened ozone standards in 1997, 2008 and 2015 with attainment dates out to 2037 for areas in "extreme" nonattainment. California has the only three extreme ozone nonattainment areas in the country for the 2015 ozone NAAQS. Extreme ozone nonattainment areas are allowed to use a provision in the Act where emission reduction measures can wait for technology to advance. California also has multiple PM2.5 nonattainment areas with the highest possible classification and greatest attainment challenges. Thus, control measures are needed for meeting the NAAQS as expeditiously as possible, rather than being held in reserve.

To address contingency measure requirements given the courts' decisions and U.S. EPA's draft guidance, CARB staff and local air districts would need to develop a measure or measures that, when triggered by a Triggering Event, will achieve one year's worth of progress for the given nonattainment area unless it is determined that it is infeasible to achieve one year's worth of emission reductions. Given CARB's wide array of mobile source control programs, the relatively limited portion of emissions primarily regulated by the local air districts, and the fact that primarily-federally regulated sources are expected to account for approximately 52 percent of statewide nitrogen oxides (NOx) emissions by 2037[10], finding triggered measures that will achieve the required reductions is nearly impossible. That said, even discounting the amount to reflect the proportion of sources that are primarily federally regulated, additional control measures that can be identified by CARB staff are scarce or nonexistent that would achieve the required emissions reductions needed for a contingency measure.

Adding to the difficulty of identifying available control measures, not only does the suite of contingency measures need to achieve a large amount of reductions, but they will also need to achieve these reductions in the year following the year in which the Triggering Event has been identified. Although the newly released draft guidance proposes allowing for up to two years to achieve those reductions, control measures achieving the level of reductions required often take more than two years to implement and will likely not result in immediate reductions. In California's 2022 State SIP Strategy, CARB's three largest NOx reduction

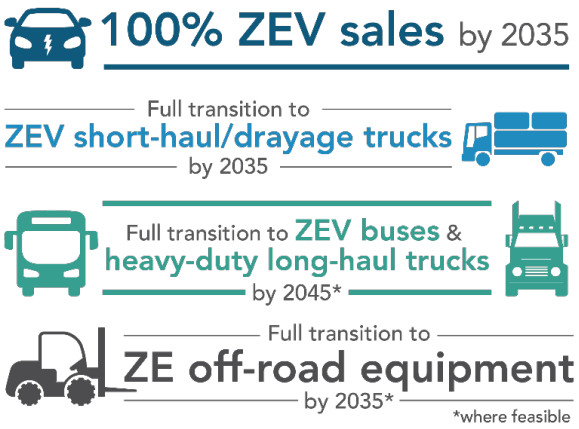
[9] 88 Fed. Reg. 53431 (August 8, 2023)
[10] Source: CARB 2022 CEPAM v1.01; based on 2037 emissions totals.

measures, In-Use Locomotive Regulation, Advanced Clean Fleets, and Transportation Refrigeration Unit II, rely on accelerated turnover of older engines/trucks. The need for buildout of potential infrastructure upgrades and market-readiness of new equipment options that meet requirements limits the availability to have significant emission reductions in a short amount of time. Options for a technically and economically feasible triggered measure that can be implemented and achieve the necessary reductions in the time frame required are scarce in California.

CARB has over 50 years of experience reducing emissions from mobile sources like cars and trucks, as well as other sources of pollution under State authority. The Reasonably Available Control Measures for State Sources analysis that CARB included in all of the 70 ppb 8-hour ozone SIPs illustrates the reach of CARB's current programs and regulations, many of which set the standard nationally for other states to follow. Few sources CARB has primary regulatory authority over remain without a control measure, and all control measures that are in place support the attainment of the NAAQS. There is a lack of additional control measures that would be able to achieve the necessary reductions for a contingency measure. Due to the unique air quality challenges California faces, should such additional measures exist, CARB would pursue those measures to support expeditious attainment of the NAAQS and would not reserve such measures for contingency purposes. Nonetheless, CARB staff has continued to explore options for potential statewide contingency measures utilizing its authorities and applying draft guidance.

A central difficulty in considering a statewide contingency measure under CARB's authority, is that CARB is already fully committed to driving sources of air pollution in California to zero-emission everywhere feasible and as expeditiously as possible. In 2020, Governor Newsom signed Executive Order N-79-20 (*Figure 1*) that established a first-in-the-nation goal for 100 percent of California sales of new passenger cars and trucks to be zero emission by 2035. The Governor's order also set a goal to transition 100 percent of the drayage truck fleet to zero- emission by 2035, all off-road equipment where feasible to zero -emission by 2035, and the remainder of the medium and heavy-duty vehicles to zero--emission where feasible by 2045.

Figure 1 - Governor Newsom Executive Order N-79-20



California is committed to achieving these goals, and CARB is pursuing an aggressive control program in conjunction with other state and local agencies. CARB's programs not only go beyond emissions standards and programs set at the federal level, but many include zero-emissions requirements or otherwise, through incentives and voluntary programs, that drive mobile sources to zero-emissions, as listed in Table 2 below. CARB is also exploring and developing a variety of new measures to drive more source categories to zero-emissions and reduce emissions even further, as detailed in the 2022 State SIP Strategy. With most source categories being driven to zero-emissions as expeditiously as possible, opportunities for having triggered measure that could reduce NOx, reactive organic gases (ROG) and PM2.5 emissions by the amount required for contingency measures are scarce.

Table 2. Emissions Sources and Respective CARB Programs with a Zero-Emissions Requirement/Component

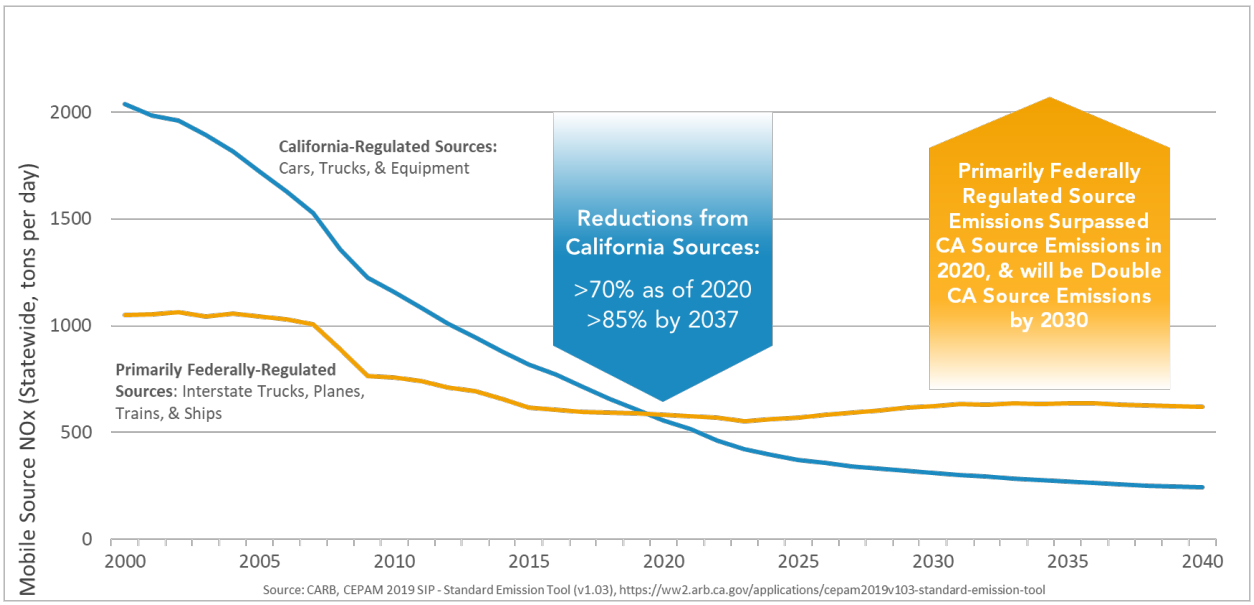
Emission Source	Regulatory Programs
Light-Duty Passenger Vehicles and Light-Duty Trucks	• Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle Regulation • Clean Miles Standard
Motorcycles	• On-Road Motorcycle Regulation*
Medium Duty-Trucks	• Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle Regulation • Zero-Emission Powertrain Certification Regulation • Advanced Clean Trucks Regulation • Advanced Clean Fleets Regulation
Heavy-Duty Trucks	• Zero-Emission Powertrain Certification Regulation • Advanced Clean Trucks Regulation • Advanced Clean Fleets Regulation
Heavy-Duty Urban Buses	• Innovative Clean Transit • Advanced Clean Fleets Regulation
Other Buses, Other Buses – Motor Coach	• Zero-Emission Airport Shuttle Regulation • Advanced Clean Fleets Regulation
Commercial Harbor Craft	• Commercial Harbor Craft Regulation
Recreational Boats	• Spark-Ignition Marine Engine Standards*
Transport Refrigeration Units	• Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (Parts I and II*)
Industrial Equipment	• Zero-Emission Forklifts* • Off-Road Zero-Emission Targeted Manufacturer Rule*
Construction and Mining	• Off-Road Zero-Emission Targeted Manufacturer Rule*
Airport Ground Support Equipment	• Zero-Emission Forklifts*
Port Operations and Rail Operations	• Cargo Handling Equipment Regulation • Off-Road Zero-Emission Targeted Manufacturer Rule*
Lawn and Garden	• Small Off-Road Engine Regulation • Off-Road Zero-Emission Targeted Manufacturer Rule*
Ocean-Going Vessels	• At Berth Regulation
Locomotives	• In-Use Locomotive Regulation

*Indicates program or regulation is in development

Most air pollution sources in California that are not as well controlled are primarily-federally regulated sources. (Figure 2). This includes interstate trucks, ships, locomotives, aircraft, and certain categories of off-road equipment, constituting a large source of potential emissions reductions. Since these are primarily regulated at the federal and, in some cases,

international level, options to implement a contingency measure with reductions approximately equivalent to one year's worth of progress are limited.

Figure 2 - State vs. Federal Mobile Source NOx Emissions



CARB staff has analyzed CARB's suite of control measures for all sources under CARB authority to identify potential contingency measure options. CARB currently has programs in place or under development for most sources and have evaluated a variety of regulatory mechanisms within existing and new programs for potential contingency triggers. After conducting a full analysis of measures for contingency measure opportunities, CARB staff determined that changes in the Smog Check Program are appropriate to use to meet the Act contingency measure requirement. The Measure was found to be the most feasible option given timing and technical constraints for adoption and implementation. The full infeasibility analysis can be found in Appendix A. Further, U.S. EPA recently released their own infeasibility analysis[11] in which they came to the same conclusion with respect to the scarcity of available contingency measures in CARB's mobile source control programs.

With this proposal, CARB staff would adopt and submit the Measure for the 70 ppb 8-hour ozone, 75 ppb 8-hour ozone, 80 ppb 8-hour ozone, the 12 $\mu g/m^3$ and 15 $\mu g/m^3$ annual PM2.5, and 35 $\mu g/m^3$ 24-hour PM2.5 standards for the relevant nonattainment areas to address the contingency measure requirements of the Act as interpreted by U.S. EPA in the draft guidance. The Measure consists of a triggered contingency measure that, if triggered,

[11] EPA Source Category and Control Measure Assessment and Reasoned Justification Technical Support Document; Federal Implementation Plan for Contingency Measures for the Fine Particulate Matter Standards; San Joaquin Valley, California. *https://www.regulations.gov/docket/EPA-R09-OAR-2023-0352*

would change the exemptions for motor vehicles in the California Smog Check Program for the relevant local air district and applicable standard as specified in Table 1 that, together with the local air districts' contingency measures, addresses the contingency measure requirements of the Act. A detailed description of the Measure is described in Section 4 below.

Section 3. California Smog Check Program

The Smog Check Program is a vehicle inspection and maintenance program administered by BAR. The Smog Check Program aims to reduce air pollution in the state by identifying vehicles with harmful excess emissions for repair or retirement. While BAR administers the Program, the California Department of Motor Vehicles (DMV) provides the vehicle registration and licensing information to support administration and enforcement of the Smog Check Program. Smog Check inspections are required biennially as a part of the vehicle registration process and/or when a vehicle changes ownership or is registered for the first time in California, depending on the area and severity of the air quality problem. Certain areas with worse air quality issues are subject to an enhanced version of the Program with stricter requirements. All gasoline-powered vehicles, hybrid vehicles, and alternative-fuel vehicles that are model-year 1976 and newer, as well as all diesel vehicles model-year 1998 and newer with a gross-vehicle weight rating of 14,000 pounds and less, are subject to Smog Check inspections.

However, there are several exceptions. Motorcycles and electric-powered vehicles are not subject to the Smog Check Program. Additionally, in 2017, California Assembly Bill (AB) 1274 was enacted, which amended the H&SC to exempt vehicles up to eight model -years old (MYO); previously, vehicles had been exempt up to six MYO. These seven and eight MYO vehicles that would otherwise be subject to a Smog Check inspection must pay an annual Smog Abatement Fee of $25, $21 of which goes to the Air Pollution Control Fund for use through the Moyer Program. Per H&SC § 44011(a)(4)(B)(ii), these motor vehicles eight or less MYO are exempted from biennial Smog Check inspection, unless CARB finds that providing an exception for these vehicles will prohibit the state from meeting the state commitments with respect to the SIP.

In 2017, when this change in Smog Check exemptions was enacted, the benefit from additional funding for Moyer Program projects was estimated to outweigh the disbenefit from exempting additional vehicles. However, since 2017, the cost-effectiveness of Moyer Program projects has increased as the program has successfully incentivized the turnover of many dirty engines and equipment. Moyer Program projects are now less cost-effective than before, resulting in a net benefit from this Measure.

As such, the ability to make the relevant finding for H&SC § 44011(a)(4)(B)(ii) purposes is within CARB's authority, and the other State agencies that implement California's Smog Check Program will be bound by it. CARB staff last submitted updates to the Smog Check Program to U.S. EPA for incorporation into the California SIP in 2009 and approved by U.S. EPA on July 1, 2010.[12] As previously mentioned, the additional exemptions from the Smog Check Program were made by AB 1274 in 2017. As a part of this SIP revision, CARB

[12] 75 Fed. Reg. 38023 (July 1, 2010)

staff is also proposing the Board approve submittal of H&SC § 44011(a)(4)(A) and (B) into the California SIP to incorporate these changes in the Smog Check Program. The H&SC sections are included in Appendix D.

Further the Smog Check Program meets federal requirements for an inspection and maintenance (I/M) program. On March 23, 2023, CARB adopted the California Smog Check Performance Standard Modeling (PSM) and Program Certification for the 70 parts per billion (ppb) 8-hour Ozone Standard (Smog Check Certification) to address I/M SIP requirements for the 70 ppb 8-hour ozone standard. CARB staff submitted it to U.S. EPA as a SIP revision. The Smog Check Certification demonstrated that the California's Smog Check Program meets the applicable federal I/M program requirements for all the 70 ppb 8-hour ozone nonattainment areas in California.

Section 4. Smog Check Contingency Measure

The Measure will consist of changing the existing Smog Check inspection exemptions in California's Smog Check Program in any applicable nonattainment area listed in Table 1. that fails to satisfy any one of the following (failures of which are collectively referred to as "Triggering Events"):

- Attain by the applicable attainment date;
- Meet a reasonable further progress (RFP) milestone;
- Meet a quantitative milestone; or
- Submit a required quantitative milestone report or milestone compliance demonstration.

The Measure will be initiated within 30 days of the effective date of a U.S. EPA determination of a Triggering Event. The exemption will change from the existing eight or less MYO to seven or less MYO in the applicable nonattainment area. If triggered, these additional vehicles would then be subject to Smog Check inspections based on the area in which the vehicle is registered (i.e., enhanced, basic, and change of ownership), resulting in additional emissions control equipment failures being identified and corrected, thereby reducing emissions that typically result when emissions control equipment is not performing as designed. The emissions reduction estimates from the Measure are detailed for each nonattainment area in Section 5 of this report. The methodology for calculating these estimates can be found in Appendix B. The Measure can be triggered a second time for a nonattainment area; if triggered a second time, the Smog Check exemption would then only apply to vehicles six or less MYO.

Implementation of the Measure will require coordination with other California State agencies. Their relevant roles and responsibilities are outlined below.

- **Bureau of Automotive Repair:** BAR, as part of the Department of Consumer Affairs, provides oversight of the automotive repair industry and administers vehicle emissions reduction and safety programs. Specifically, as it pertains to the Measure, BAR administers and enforces the Smog Check Program.
- **California Department of Motor Vehicles:** DMV administers vehicle registration and licensing and supports BAR in administering the Smog Check Program.

CARB staff will work closely with BAR and DMV staff throughout the process and leading up to a possible Triggering Event, so that both agencies have as much notice as possible for the work that will be required for full implementation of the Measure. For most potential failures to attain a relevant standard, preliminary data for the relevant ozone or PM2.5 season is available earlier and U.S. EPA makes their failure to attain findings six months after the attainment date, so CARB staff will be able to notify and work with BAR and DMV preemptively to ensure the Measure implementation is as smooth as possible.

CARB staff has quantified the emission reductions that would be achieved from implementation of the Measure, if triggered, and have documented the results in Section 5 of this report. The emission reductions anticipated are surplus to the current Smog Check Program in the nonattainment areas and they are not otherwise required by or assumed in a SIP-related program, or any other adopted State air quality program. The changes to Smog Check exemptions are enforceable since DMV requires a vehicle owner to obtain a Smog Check inspection certificate indicating a vehicle has passed its Smog Check inspection to renew their vehicle registration. The reductions from the Measure are permanent in that, if triggered, the vehicle will need to be repaired in order to renew their registration.

A. Implementation

Within 30 days of the effective date of U.S. EPA determining an applicable Triggering Event occurred, CARB will transmit a letter to BAR and DMV conveying its finding under H&SC § 44011(a)(4)(B)(ii) that providing the exception for certain motor vehicles from Smog Check inspection in specific nonattainment areas (defined by specified ZIP Codes) will prohibit the State from meeting commitments with respect to the SIP as required by the Act. This letter will explain that the Measure is being triggered to meet contingency measure requirements under Act section 172(c)(9) and/or 182(c)(9), and effectuating the change to the Smog Check exemptions for motor vehicles from eight or less MYO to seven or less MYO throughout the applicable nonattainment area (or six or less MYO in cases of the second trigger).

Prior to CARB staff submitting a letter to BAR and DMV, CARB staff will coordinate with BAR and DMV if there is potential for contingency to be triggered in the nonattainment areas in Table 1. CARB staff will meet regularly with BAR and DMV staff throughout the process to implement this Measure. Upon receipt of the CARB letter and the applicable ZIP Codes, CARB, BAR and DMV staff will begin implementation of the change in exemption length to Smog Check and take the following actions:

- DMV will update their Smog Check renewal programing to require a Smog Check inspection for the eight MYO vehicles (or seven MYO in the case of a second trigger) in the ZIP Codes provided by CARB staff;
- The eight to seven MYO (or seven to six MYO) exemption change will begin for registrations expiring beginning January 1st of the applicable year considering the time it takes for DMV to program this change and their registration renewal process;
- 60 days before the expiration date of the vehicle registration, DMV will send out registration renewals that include these newly impacted vehicles along with those already subject to Smog Check inspection;
- The notice will include information on the change in exemptions, reason for change, and resources for obtaining a Smog Check inspection from a certified station;

- CARB staff will work with DMV to develop and include an informational paper that will accompany the registration renewal with the information as included in the notice; and
- BAR and DMV will administer and enforce the new changes to the Smog Check Program.

B. Title VI and Environmental Justice

Title VI of the Civil Rights Act of 1964 (Title VI) provides that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. Other relevant federal laws prohibit discrimination in the use of federal funds based on disability, sex, and age.[13] As a recipient of federal funds, CARB must ensure it complies with Title VI and U.S. EPA's Title VI implementation regulations[14] in its relevant programs and policies.

CARB's public process to engage with stakeholders in development of the Measures, its equity analysis of the Measure, and information about CARB's Civil Rights Policy and Compliant process is summarized below.

Public Process

In developing the proposed Measure, CARB staff engaged in a thorough public process that addresses the requirements of Title VI. CARB staff initiated the public process with release of a concept document and hosting a remote online workshop in August 2023 to solicit input from the public.[15] The workshop was hosted through Zoom in the late afternoon to allow more community members to participate without needing to travel. The public notice for the workshop provided a contact for special accommodation requests by interested stakeholders, and CARB staff also made available on the notice and its website a staff email address to accept public questions and comments. The concept document and other materials were available in English and Spanish on the website and through emails sent to relevant email list serves, including the Environmental Justice Stakeholders Group. The workshop included translation services that provided a forum in both English and Spanish for the proposed Measure to be discussed in a public setting and provide additional opportunity for public feedback, input, and ideas. After the workshop, CARB staff

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[13] Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; Title IX of the Education Amendments of 1972, as amended, 20 U.S.C. §§ 1681 et seq.; Age Discrimination Act of 1975, 42 U.S.C. §§ 6101 et seq.; and Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92-500 § 13, 86 Stat. 903 (codified as amended at 33 U.S.C. § 1251 (1972)).

[14] 40 C.F.R. Part 7.

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https://ww2.arb.ca.gov/resources/documents/california-smog-check-contingency-measure

has made the recording of the workshop available on its website. CARB staff considered the public feedback it received in developing the Measure. CARB staff will continue to address the requirements of Title VI in the event implementation of the Measure is triggered and provide continuing opportunities for public feedback.

Racial Equity, Environmental Justice, and Equity Analysis

Central to CARB's mission is the commitment to racial equity and environmental justice and ensuring a clean and healthy environment for all Californians. Many low-income and overburdened communities within the nonattainment areas, and across the State, continue to experience disproportionately high levels of air pollution and the resulting detrimental impacts to their health. To address longstanding environmental and health inequities from elevated levels of criteria pollutants (and toxic air contaminants), CARB prioritizes environmental justice, incorporating racial equity, and conducting meaningful community engagement in its policy and planning efforts and programs. It is imperative to optimize California's control programs to maximize emissions reductions and provide targeted near-term benefits in those communities that continue to bear the brunt of poor air quality.

Across the agency, CARB is engaged in specific localized efforts include development of community air monitoring networks to learn about local exposures, development of a racial equity assessment lens to consider benefits and burdens of CARB programmatic work in the planning stages, continuously increasing and improving community engagement efforts, and implementation of Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017), known as the Community Air Protection Program[10]. Significant progress has been made to address air pollution statewide and in local communities, and it is imperative to also ensure all Californians have access to healthy air quality.

Specific to this Measure, given the existing disproportionate impacts overburdened communities already face, CARB staff sought to evaluate whether the proposed Measure would itself impact disproportionately burden certain communities. In conducting this evaluation, CARB staff analyzed whether there would be disproportionate impact on disadvantaged communities within the affected nonattainment areas if the Measure is triggered.

CARB staff also analyzed the impacts of the Measure on vehicle owners in disadvantaged communities (DACs). CARB staff evaluated the potential impacts on owners of 8 MYO vehicles that reside in disadvantaged communities (DACs), which are defined by California Senate Bill 535[16] as census tracts receiving the highest 25 percent of overall scores in *CalEnviroScreen 4.0*[17]. These communities face the highest air pollution and other

[16] De Leon, *https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120SB535*
[17] *https://oehha.ca.gov/calenviroscreen*

environmental burdens, and CARB staff is working to ensure that policy changes do not have a negative disproportionate impact on these populations.

In order to evaluate whether vehicle owners in DACs will be disproportionately impacted by this Measure if it is triggered, CARB staff compared the proportion of 8 MYO vehicles subject to the Smog Check inspection that are registered in DACs in each nonattainment area to the proportion of vehicles that are subject to the Smog Check inspection at some point in their lifetime that are registered in DACs for each nonattainment area. CARB staff used DMV data reflecting vehicle registrations as of 2021; thus, model year 2013 was used to represent 8 MYO vehicles and calculate the proportion of vehicles subject to the change. CARB staff assumes that the proportion of 8 MYO vehicles subject to the Smog Check inspection will be approximately equivalent in future attainment years. Based on this analysis for all areas in Table 1, CARB staff found that the proportion of vehicle owners potentially impacted by the Measure, if triggered, is not disproportionate to the population as a whole in each of the nonattainment areas analyzed. The proportion of people impacted with vehicles registered in DACs is about equal to the proportion of vehicle owners residing in DACs area-wide and generally represent a relatively small portion of the total population being impacted.

$$\frac{8MYO\ vehicles\ registered\ in\ DACs\ in\ nonattainment\ area}{8MYO\ vehicles\ registered\ in\ nonattainment\ area} = \frac{all\ vehicles\ registered\ in\ DACs\ in\ nonttainment\ area}{all\ vehicles\ registered\ in\ nonattainment\ area}$$

If the Measure is triggered, though, there could be other potential impacts to vehicle owners that should be considered. The main impacts to vehicle owners are the additional monetary cost and time of obtaining a Smog Check inspection and potential repairs one year earlier than previously required. The inspection and certification costs are mostly offset by the Smog Abatement Fee that exempted vehicle owners must pay. A Smog Check inspection averages $55 and is required every other year in most areas of the State. The Smog Abatement Fee is $25 and paid annually as a part of renewal of vehicle registration, thus two years of the Smog Abatement Fee is roughly equivalent to the average cost of a Smog Check Inspection.

Repair costs can range, but generally cost $750 on average, which could be a significant cost burden. However, financial assistance is available through BAR's Consumer Assistance Program, which provides up to $1,200 for repair costs. In terms of time to obtain a Smog Check inspection which can vary significantly due to location, many vehicles require regular service throughout the year, and owners may be able to schedule a Smog Check inspection concurrently. Additionally, the potential foregone dollars to the Moyer Program may reduce additional opportunities for emission reductions in districts where the local air district dedicates Moyer Program funds exclusively to disadvantaged communities. CARB staff will

continue to explore additional activities or funding opportunities to mitigate these potential disproportionate impacts.

Civil Rights Policy and Discrimination Complaint Process

Under CARB's written Civil Rights Policy and Discrimination Complaint process (Civil Rights Policy), CARB has a policy of nondiscrimination in its programs and activities and implements a process for discrimination complaints filed with CARB, which is available on CARB's website. The Civil Rights Officer coordinates implementation of CARB's nondiscrimination activities, including as the Equal Employment Opportunity (EEO) Officer for employment purposes, and who can be reached at *EEOP@arb.ca.gov*, or (279) 208-7110.[18]

The Civil Rights Policy and Discrimination Complaint Process provides the following information about the nondiscrimination policy and its applicability:

> It is the California Air Resources Board (CARB) policy to provide fair and equal access to the benefits of a program or activity administered by CARB. CARB will not tolerate discrimination against any person(s) seeking to participate in, or receive the benefits of, any program or activity offered or conducted by CARB. Members of the public who believe they were unlawfully denied full and equal access to an CARB program or activity may file a civil rights complaint with CARB under this policy. This non-discrimination policy also applies to people or entities, including contractors, subcontractors, or grantees that CARB utilizes to provide benefits and services to members of the public. [. . .]

As described in the Civil Rights Policy and Discrimination Complaint Process, the Civil Rights Officer coordinates implementation of nondiscrimination activities:

> CARB's Executive Officer will have final authority and responsibility for compliance with this policy. CARB's Civil Rights Officer, on behalf of the Executive Officer, will coordinate this policy's implementation within CARB, including work with the Ombudsman's Office, Office of Communications, and the staff and managers within a program or activity offered by CARB. The Civil Rights Officer coordinates compliance efforts, receives inquiries concerning non-discrimination requirements, and ensures CARB is complying with state and federal reporting and record retention requirements, including those required by Code of Federal Regulations, title 40, section 7.10 et seq.

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[18] CARB. California Air Resources Board and Civil Rights. *https://ww2.arb.ca.gov/california-air-resources-board-and-civil-rights*; Civil Rights Policy and Discrimination Compliant Process. November 1, 2016. *https://ww2.arb.ca.gov/sites/default/files/2023-01/2016-11-03%20CARB%20Civil%20Rights%20Policy%20Revised%20Final.pdf*

The Civil Rights Policy and Discrimination Complaint Process also describes in detail the complaint procedure, as follows:

> A Civil rights complaint may be filed against CARB or other people or entities affiliated with CARB, including contractors, subcontractors, or grantees that CARB utilizes to provide benefits and services to members of the public. The complainant must file his or her complaint within one year of the alleged discrimination. This one-year time limit may be extended up to, but no more than, an additional 90 days if the complainant first obtained knowledge of the facts of the alleged violation after the expiration of the one-year time limit. [. . .]
>
> The Civil Rights Officer will review the facts presented and collected and reach a determination on the merits of the complaint based on a preponderance of the evidence. The Civil Rights Officer will inform the complainant in writing when CARB has reached a determination on the merits of the discrimination complaint. Where the complainant has articulated facts that do not appear discriminatory but warrants further review, the Civil Rights Officer, in his or her discretion, may forward the complaint to a party within CARB for action. The Civil Rights Officer will inform the complainant, either verbally or in writing, before facilitating the transfer. [. . .]
>
> CARB will not tolerate retaliation against a complainant or a participant in the complaint process. Anyone who believes that they have been subject to retaliation in violation of this policy may file a complaint of retaliation with CARB following the procedures outlined in this policy.

There is a Civil Rights Complaint Form available[19] on the webpage, which should be used by members of the public to file a complaint of discrimination against CARB that an individual believes occurred during the administration of its programs and services offered to the public. As described on CARB's webpage, for all complaints submitted, the Civil Rights Officer will review the complaint to determine if there is a prima facie complaint (which means, if all facts alleged were true, would a violation of the applicable policy exist). If the Civil Rights Officer identifies a prima facie complaint in the jurisdiction of the Civil Rights Office, the Civil Rights Office will investigate and determine whether there is a violation of the policy.

The laws and regulations that CARB implements through this policy include:

- Code of Federal Regulations, Title 40 Parts 5 and 7;
- Title VI of the U.S. Civil Rights Act of 1964, as amended;

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[19] CARB. Civil Rights Complaint Form. July 2019. *https://ww2.arb.ca.gov/sites/default/files/2023-01/eo_eeo_033_civil_rights_complaints_form.pdf*

- Section 504 of the Rehabilitation Act of 1973;
- Age Discrimination Act of 1975;
- Title IX of the Education Amendments of 1972;
- California Government Code, title 2, Division 3, Part 1, Chapter 2, Article 9.5, *Discrimination*, section 11135 et seq.; and
- California Code of Regulations, title 2, section 10000 et seq.

As part of its overarching civil rights and environmental justice efforts, CARB is in the process of updating its Civil Rights Policy and will make those publicly available once complete. These updates will reflect available U.S. EPA and U.S. Department of Justice resources for Title VI and environmental justice policies. CARB encourages U.S. EPA to issue additional guidance to further clarify Title VI requirements and expectations to assist state implementation efforts.

C. Fiscal Impacts to State Programs

The Measure has some fiscal impacts. Previously exempted vehicles will no longer pay the annual Smog Abatement Fee of $25, but instead pay the biennial Smog Check inspection certification fee of $8.25, which is directed to BAR to fund the Smog Check Program. Of the Smog Abatement fee, $21 is directed to the Air Pollution Control Fund to fund the Moyer Program, which will no longer be collected if the exemption changes. If the Measure is triggered, this will result in fewer funds being directed towards the Air Pollution Control Fund for the Moyer Program, but an increase in certification fees for BAR. For each nonattainment area and standard, CARB staff used the estimated number of vehicles impacted by the change in exemption model year to estimate the fiscal impact of a potential change in exemption if the Measure is triggered. The estimated loss of funding if triggered is detailed for each nonattainment area in Section 5.

The potential loss of funds resulting from the Measure being triggered in an area may result in a loss of funds for the Moyer Program, which could result in fewer Moyer Program projects and fewer opportunities for additional emission reductions. If the Measure is triggered in a nonattainment area, the monetary impacts will be statewide. The Moyer Program funds are collected statewide but allocated to each local air district according to requirements set by H&SC §44299.2. For South Coast Air Basin only, the allocation is based on human population relative to the State as a whole. For the remaining local air districts, funds are allocated based on each local air district's population, air quality, and historical allocation awarded in Fiscal Year (FY) 2002-2003. CARB staff used the statewide average cost effectiveness of Moyer Program projects to estimate the Moyer Program emission reductions impact if the Measure is triggered. Based on CARB staff analysis, the resulting potential foregone emissions reductions from fewer potential projects funded through the Moyer Program will not outweigh the emissions reductions benefit from the Measure. The

estimated loss in potential emissions reductions from the Moyer Program is detailed below in each nonattainment area section of this report. The methodology for calculating the impact of the loss of Moyer Program funds can be found in Appendix C.

D. CEQA

CARB staff has determined that the Measure is exempt from CEQA under the "general rule" or "common sense" exemption (14 CCR 15061(b)(3)). The common sense exemption states a project is exempt from CEQA if "the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA." The Measure addresses contingency measure requirements under the Act and would remove an exemption from a Smog Check inspection for certain model year vehicles only in the event a Triggering Event occurs. The Measure would only go into effect in the area in which it is triggered. The change in exemptions for vehicles required to obtain a Smog Check inspection, only if triggered by an applicable event, would not require new equipment and has no potential to adversely affect air quality or any other environmental resource area. Based on CARB staff's review it can be seen with certainty that there is no possibility that the Measure may result in a significant adverse impact on the environment; therefore, this activity is exempt from CEQA.

CARB staff has also determined that the Measure is categorically exempt from CEQA under the "Class 8" exemption (Cal. Code Regs., tit. 14, § 15308). Class 8 exemptions apply to "actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment." The proposed Measure is an action by CARB, a regulatory agency, to protect the environment in the event a Triggering Event occurs. The Measure will assure the maintenance and enhancement of the environment by removing exemptions from the Smog Check Program, resulting in additional emissions control equipment failures being identified and corrected, thereby reducing emissions that typically result when emissions control equipment is not performing as designed. CARB staff analysis indicates air emission benefits exceed the disbenefits in each relevant air basin. Therefore, the Smog Check Contingency Measure is also exempt as a Class 8 exemption.

Section 5. Nonattainment Area Analyses

California's nonattainment challenge for ozone and PM2.5 NAAQS in most of the State is driven in part due to motor vehicle emissions. While CARB's regulations require motor vehicles to meet emission standards throughout their useful lives, this is not guaranteed. CARB staff recommends the Board exercise the authority under this statute and find that exempting motor vehicles that are less than 8 years old from the requirements is preventing the State from meeting its commitments under the Act related to complying with the Act's contingency measure requirements. Subjecting vehicles to the Smog Check Program to reduce emissions as a contingency measure when a Triggering Event occurs would help the State meet its contingency measure requirement under the Act. In addition to CARB's actions, each local air district has either included a complementary contingency measure or measures in their SIP or will provide a reasoned justification for why they are unable to provide contingency measures for the full amount of reductions as specified in the draft guidance. Below, for each nonattainment area listed in Table 1, CARB staff is providing the estimate of the one year's worth of progress, estimate of contingency measure reductions, equity impacts, and Moyer Program impacts.

A. Coachella Valley

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or one year's worth (OYW) of progress based on the draft guidance, is shown in Table 3.

Table 3. Coachella Valley OYW of Progress
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2031	0.34	0.14
70 ppb 8-hour Ozone	2037	0.17	0.10

Table 4 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

Table 4. Coachella Valley Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2031	0.008	0.003
70 ppb 8-hour Ozone	2037	0.008	0.003

Equity Impacts

Table 5 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the Coachella Valley. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 4 percent. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

Table 5. Coachella Valley Vehicle Populations

All Vehicles	All Vehicles Population	8MYO Vehicles* (MY 2013)	8MYO Vehicles* (MY 2013) Population
Total Vehicle Population	320,375	Vehicle Population	14,622
Vehicle Population in DACs	15,492	Vehicle Population in DACs	640
Proportion DAC	4.84%	Proportion DAC	4.38%

*MY 2013 Vehicle populations were used to represent 8MYO vehicles.

Carl Moyer Impacts

Should the Measure be triggered in Coachella Valley, the potential funds lost by year is listed below in Table 6. The loss in funding would have statewide impacts as the funds are collected and redistributed to districts based on the formula H&SC § 44299.2. Based on statewide cost effectiveness and historical allocations to each local air district, the estimated loss in potential emission reduction benefits in Coachella Valley if the Measure is triggered is shown in Table 7.

Table 6. Coachella Valley 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2031	$ 311,468
70 ppb 8-hour Ozone	2037	$ 325,868

Table 7. Coachella Valley Carl Moyer Program Potential Foregone Emissions Reductions

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2031	0.0002
70 ppb 8-hour Ozone	2037	0.0002

B. Eastern Kern County

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 8.

Table 8. Eastern Kern County OYW of Progress

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2026	0.30	0.08
70 ppb 8-hour Ozone	2032	0.26	0.07

Table 9 documents the emission reductions that would occur after the attainment year due to implementation of the Measure if triggered.

Table 9. Eastern Kern County Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2026	0.003	0.001
70 ppb 8-hour Ozone	2032	0.003	0.001

Equity Impacts

Table 10 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in Eastern Kern County. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 4 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

Table 10. Eastern Kern County Vehicle Populations
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles	All Vehicles Population	8MYO Vehicles* (MY 2013)	8MYO Vehicles* (MY 2013) Population
Total Vehicle Population	86,909	Vehicle Population	4,209
Vehicle Population in DACs	3,640	Vehicle Population in DACs	174
Proportion DAC	4.19%	Proportion DAC	4.12%

*MY 2013 Vehicle populations were used to represent 8MYO vehicles.

Carl Moyer Impacts

Should the Measure be triggered in Eastern Kern County, the potential funds lost statewide by year is listed below in Table 11. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in Eastern Kern County if the Measure is triggered is shown in Table 12.

Table 11. Eastern Kern County 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2026	$ 112,514
70 ppb 8-hour Ozone	2032	$ 116,670

Table 12. Eastern Kern Carl Moyer Program Potential Foregone Emissions Reductions
(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2026	0.000003
70 ppb 8-hour Ozone	2032	0.000003

C. Mariposa County

The Measure complements local air district efforts to meet contingency measure requirements for the 70 ppb 8-hour ozone standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 13.

Table 13. Mariposa County OYW of Progress
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
70 ppb 8-hour Ozone	2026	0.02	0.13

Table 14 documents the emission reductions that would occur after the attainment year due to implementation of the Measure if triggered.

Table 14. Mariposa County Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.0003	0.0001

Equity Impacts

Per scores in *CalEnviroScreen 4.0*, there are very few vehicles registered in DACs in Mariposa County. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

Carl Moyer Impacts

Should the Measure be triggered in Mariposa County, the potential funds lost by year is listed below in Table 15. Based on district allocations of Moyer Program funds per H&SC §44299.2, Mariposa County receives $200,000 regardless of the funding available statewide. Thus, there will be no emissions disbenefit from a decrease in Moyer Funds in Mariposa County if the measure is triggered, shown in Table 16.

Table 15. Mariposa County 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
70 ppb 8-hour Ozone	2026	$ 8,691

Table 16. Mariposa County Carl Moyer Program Potential Foregone Emissions Reductions

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
70 ppb 8-hour Ozone	2026	0.000

D. Sacramento Metro Area

The Measure complements the local air districts' efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 17.

Table 17. Sacramento Metro OYW of Progress

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2024	2.20	1.78
70 ppb 8-hour Ozone	2032	1.26	0.99

Table 18 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

Table 18. Sacramento Metro Area Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2024	0.077	0.037
70 ppb 8-hour Ozone	2032	0.047	0.015

Equity Impacts

Table 19 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the Sacramento Metro area. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 7 percent. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

Table 19 Sacramento Metro Area Vehicle Populations
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	1,766,464	MY13 Vehicle Population	88,163
Vehicle Population in DACs	135,377	MY13 Vehicle Population in DACs	6,387
Proportion DAC	7.66%	Proportion DAC	7.24%

Carl Moyer Impacts

Should the Measure be triggered in the Sacramento Metro Area, the potential funds lost by year is listed below in Table 20. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in Sacramento Metro Area if the Measure is triggered is shown in Table 21.

Table 20. Sacramento Metro Area 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2024	$ 2,554,206
70 ppb 8-hour Ozone	2032	$ 2,020,844

Table 21. Sacramento Metro Area Carl Moyer Program Potential Foregone Emissions Reductions

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2024	0.0009
70 ppb 8-hour Ozone	2032	0.0007

E. San Diego County

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 22.

Table 22. San Diego County OYW of Progress

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2026	2.19	1.97
70 ppb 8-hour Ozone	2032	1.26	0.89

Table 23 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

Table 23. San Diego County Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2026	0.065	0.027
70 ppb 8-hour Ozone	2032	0.056	0.016

Equity Impacts

Table 24 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in San Diego County. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 5.5 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

Table 24. San Diego County Vehicle Populations
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	2,360,242	MY13 Vehicle Population	117,373
Vehicle Population in DACs	146,252	MY13 Vehicle Population in DACs	6,433
Proportion DAC	6.20%	Proportion DAC	5.48%

Carl Moyer Impacts

Should the Measure be triggered in San Diego County, the potential funds lost by year is listed below in Table 25. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in San Diego County if the Measure is triggered is shown in Table 26.

Table 25. San Diego County 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2026	$ 2,308,061
70 ppb 8-hour Ozone	2032	$ 2,341,248

Table 26. San Diego County Carl Moyer Program Potential Foregone Emissions Reductions

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2026	0.001
70 ppb 8-hour Ozone	2032	0.001

F. San Joaquin Valley

The Measure complements district efforts to meet contingency measure requirements for the 80 ppb, 75 ppb and 70 ppb 8-hour ozone standards, the 15 ug/m^3 and 12 ug/m^3 annual PM2.5 standards, and the 35 ug/m^3 24-hour PM2.5 standard. On May 18, 2023, specific to PM2.5 standards, the San Joaquin Valley Air Pollution Control District adopted their *PM2.5 Contingency Measure SIP Revision* which was submitted to U.S. EPA by CARB staff. Further, on June 23, 2023, CARB staff committed to submit to U.S. EPA a triggered contingency measure under State authority for the PM2.5 standards. If adopted, the Measure will be submitted to U.S. EPA to fulfill that commitment.

The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 27 for the 80 ppb, 75 ppb and 70 ppb 8-hour ozone standards.

Table 27. San Joaquin Valley OYW of Progress

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
80 ppb 8-hour ozone	2023	7.57	2.40
75 ppb 8-hour Ozone	2031	4.25	1.88
70 ppb 8-hour Ozone	2037	2.35	1.73

Table 28 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

Table 28. San Joaquin Valley Potential Reductions from Measure
(reductions calculated on summer planning inventory for ozone, annual planning inventory for PM2.5)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
80 ppb 8-hour Ozone	2023	0.112	0.056
15 µg/m^3 Annual PM2.5	2023	0.117	0.052
35 µg/m^3 24-hour PM2.5	2024	0.120	0.052
12 µg/m^3 Annual PM2.5	2030	0.086	0.027
75 ppb 8-hour Ozone	2031	0.079	0.025
70 ppb 8-hour Ozone	2037	0.076	0.024

Equity Impacts

Table 29 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the San Joaquin Valley. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 28-29 percent, though the percentage of people residing in DACs in San Joaquin Valley is relatively higher compared to other districts. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

Table 29. San Joaquin Valley Vehicle Populations
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	2,493,831	MY13 Vehicle Population	113,744
Vehicle Population in DACs	738,064	MY13 Vehicle Population in DACs	31,906
Proportion DAC	29.60%	Proportion DAC	28.05%

Carl Moyer Impacts

Should the Measure be triggered in San Joaquin Valley, the potential funds lost by year is listed below in Table 30. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in the San Joaquin Valley if the Measure is triggered is shown in Table 31.

Table 30. San Joaquin Valley 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars[20]
80 ppb 8-hour Ozone	2023	$ 3,781,802
15 µg/m^3 Annual PM2.5	2023	$ 3,781,802
35 µg/m^3 Annual PM2.5	2024	$ 3,880,753
12 µg/m^3 Annual PM2.5	2030	$ 3,171,435
75 ppb 8-hour Ozone	2031	$ 3,167,124
70 ppb 8-hour Ozone	2037	$ 3,300,289

Table 31 San Joaquin Valley Carl Moyer Program Potential Foregone Emissions Reductions

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
80 ppb 8-hour Ozone	2023	0.004
15 µg/m^3 Annual PM2.5	2023	0.004
35 µg/m^3 Annual PM2.5	2024	0.004
12 µg/m^3 Annual PM2.5	2030	0.003
75 ppb 8-hour Ozone	2031	0.003
70 ppb 8-hour Ozone	2037	0.003

[20] For years with multiple standards/ triggers in the same year, the loss in smog abatement fees would only be triggered once.

G. South Coast Air Basin

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards, and the 12 ug/m^3 annual PM2.5 standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 32 for the 75 ppb and 70 ppb 8-hour ozone standards.

Table 32. South Coast Air Basin OYW of Progress
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2031	4.12	6.38
70 ppb 8-hour Ozone	2037	2.62	3.54

Table 33 documents the emission reductions that occur after the attainment or final RFP milestone year due to implementation of the Measure if triggered.

Table 33. South Coast Air Basin Potential Reductions from Measure
(reductions calculated on summer planning inventory for ozone, annual planning inventory for PM2.5)

Standard	Attainment/RFP Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2029	0.295	0.096
70 ppb 8-hour Ozone	2035	0.254	0.077
12 µg/m^3 Annual PM2.5	2030	0.300	0.093

Equity Impacts

Table 34 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the South Coast Air Basin. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is lower than the proportion of the general population of all vehicles registered in DACs overall, though the percentage of people residing in DACs in the South Coast Air Basin is relatively higher compared to other local air districts. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

Table 34. South Coast Vehicle Populations
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	11,296,609	MY13 Vehicle Population	504,562
Vehicle Population in DACs	3,324,206	MY13 Vehicle Population in DACs	129,225
Proportion DAC	29.43%	Proportion DAC	25.61%

Carl Moyer Impacts

Should the measure be triggered in the South Coast Air Basin, the potential funds lost by year is listed below in Table 35. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in the South Coast Air Basin if the Measure is triggered is shown in Table 36.

Table 35. South Coast 8 MYO Smog Abatement Fees

Standard	Attainment/RFP Year	Potential Dollars
75 ppb 8-hour Ozone	2029	$ 11,273,782
70 ppb 8-hour Ozone	2035	$ 11,195,217
12 μg/m^3 Annual PM2.5	2030	$ 11,122,871

Table 36. South Coast Carl Moyer Program Potential Foregone Emissions Reductions
(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment/RFP Year	NOx (tpd)
75 ppb 8-hour Ozone	2029	0.024
70 ppb 8-hour Ozone	2035	0.024
12 μg/m^3 Annual PM2.5	2030	0.024

H. Ventura County

The Measure complements local air district efforts to meet contingency measure requirements for the 70 ppb 8-hour ozone standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 37.

Table 37. Ventura County OYW of Progress
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
70 ppb 8-hour Ozone	2026	0.48	0.20

Table 38 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

Table 38. Ventura County Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.013	0.005

Equity Impacts

Table 39 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in Ventura County. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 3 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

Table 39. Ventura County Vehicle Populations
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	661,147	MY13 Vehicle Population	29,970
Vehicle Population in DACs	22,466	MY13 Vehicle Population in DACs	899
Proportion DAC	3.40%	Proportion DAC	3.00%

Carl Moyer Impacts

Should the Measure be triggered in Ventura County, the potential funds lost by year is listed below in Table 40. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in Ventura County if the Measure is triggered is shown in Table 41.

Table 40. Ventura County 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
70 ppb 8-hour Ozone	2026	$ 459,328

Table 41. Ventura County Carl Moyer Program Potential Foregone Emissions Reductions
(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
70 ppb 8-hour Ozone	2026	0.00008

I. West Mojave Desert

The Measure complements local air districts efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 42.

Table 42. West Mojave Desert OYW of Progress
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2026	1.50	0.39
70 ppb 8-hour Ozone	2032	1.18	0.35

Table 43 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

Table 43. West Mojave Desert Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2026	0.021	0.009
70 ppb 8-hour Ozone	2032	0.018	0.006

Equity Impacts

Table 44 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the West Mojave Desert. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 8.5 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

Table 44. West Mojave Desert Vehicle Populations

(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	665,512	MY13 Vehicle Population	23,721
Vehicle Population in DACs	56,624	MY13 Vehicle Population in DACs	2,047
Proportion DAC	8.5%	Proportion DAC	8.6%

Carl Moyer Impacts

Should the measure be triggered in West Mojave Desert, the potential funds lost by year is listed below in Table 45. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in West Mojave Desert if the Measure is triggered is shown in Table 46.

Table 45. West Mojave Desert 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2026	$ 746,890
70 ppb 8-hour Ozone	2032	$ 752,076

Table 46. West Mojave Desert Carl Moyer Program Potential Foregone Emissions Reductions

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2026	0.00006
70 ppb 8-hour Ozone	2032	0.00006

J. Western Nevada County

The Measure complements local air district efforts to meet contingency measure requirements for the 70 ppb 8-hour ozone standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 47.

Table 47. Western Nevada County OYW of Progress

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
70 ppb 8-hour Ozone	2026	0.09	0.08

Table 48 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

Table 48. Western Nevada County Potential Reductions from Measure
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.002	0.001

Equity Impacts

Per scores in *CalEnviroScreen 4.0*, there is only one vehicle registered in a DAC within the Western Nevada County nonattainment area. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

Carl Moyer Impacts

Should the Measure be triggered in Western Nevada County, the potential funds lost by year is listed below in Table 49. Based on district allocations of Moyer Program funds per H&SC §44299.2, Northern Sierra Air Quality Management District, the local air district for Western Nevada County, receives $200,000 regardless of the funding available statewide. Thus, there will be no emissions disbenefit from a decrease in Moyer Funds in Western Nevada County if the measure is triggered, shown in Table 50.

Table 49. Western Nevada County 8 MYO Smog Abatement Fees

Standard	Attainment Year	Potential Dollars
70 ppb 8-hour Ozone	2026	$ 79,262

Table 50. Western Nevada County Carl Moyer Program Potential Foregone Emissions Reductions
(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.000

Section 6. Staff Recommendation

CARB staff recommends the Board:

1. Adopt the Measure addressing contingency measure requirements for the applicable nonattainment areas and standards as listed in Table 1;

2. Approve submittal into the California SIP of H&SC sections 44011(a)(4)(A) and (B); and

3. Direct the Executive Officer to submit the Measure, and H&SC sections 44011(a)(4)(A) and (B), to U.S. EPA as a revision to the California SIP.

Appendix A:
Infeasibility Analysis

Infeasibility Analysis

Measure Analysis

CARB staff analyzed CARB's suite of control measures for all sources under CARB authority to identify potential contingency measure options. CARB control measures reduce NOx, ROG and PM2.5 emissions. CARB currently has programs in place or under development for most of these sources and have evaluated a variety of regulatory mechanisms within existing and new programs for potential contingency triggers.

Criteria for Contingency Feasibility

CARB staff has evaluated potential options for a contingency measure within each of CARB's regulations (Table 51) using three criteria to determine its feasibility given the contingency measure requirements under the Act, recent court decisions and draft guidance. First, each measure was evaluated on whether it could be implemented within 30 days of being triggered and achieve the necessary reductions within 1-2 years of being triggered. Second, the technological feasibility of each option was considered to assess whether the measure would be technically feasible to implement. Measure requirements may be unavailable or cost prohibitive to implement, especially in the time frame required for contingency. Lastly, CARB staff evaluated whether the timeline for adoption would be compatible with the current consent decree deadline of September 30, 2024[21]. The contingency measure must be adopted by CARB and submitted to and fully approved by U.S. EPA by this date to resolve a San Joaquin Valley PM2.5 Federal Implementation Plan (FIP) published by U.S. EPA on August 7, 2023. A CARB statewide measure needing a full regulatory process typically requires five years for development and adoption by CARB and additional time for U.S. EPA's approval process including obtaining an Act waiver or authorization.

Challenges for CARB Measures

Based on CARB's feasibility analysis, there are a few common components of CARB regulations that limit the options for contingency measures. All new engine and emissions standards set by CARB require waivers or authorizations from federal preemption under the Clean Air Act; this process can take anywhere from months to several years, and then U.S. EPA must also act to approve the regulation into the California SIP. Further, CARB regulations that require fleet turnover or new engine standards require a long lead time for implementation. Engine manufacturers would need lead time to design, plan, certify, manufacture, and deploy cleaner engines to meet a new or accelerated engine standard, while fleet regulations necessitate that manufacturing is mature so that there is enough supply available to meet that demand. On the consumer side, additional time would be required for procurement implementation and there may be additional infrastructure

[21] See 87 Fed.Reg. 71631 (Nov. 23, 2022).

needed to meet new requirements. Thus, measures that require fleet turnover or new engine standards are not appropriate to be used as a triggered contingency measure.

CARB regulations are also technology-forcing, which makes it difficult to amend regulations or pull compliance timelines forward with only 1-2 years notice as industry needs time to plan, develop, and implement these new technologies. It would be infeasible to require industry to turn over their fleets within one year if the technology is not readily available at a reasonable cost. CARB regulations are also the most stringent air quality control requirements in the country, so there are few opportunities to require additional stringency. CARB is driving sources under our authority to zero-emission everywhere feasible to ensure attainment of air quality standards across the State, and to support near-source toxics reductions and climate targets. However, the zero-emissions targets also eliminates opportunities for contingency.

Lastly, many of CARB's options for a contingency measure would require a full rulemaking process and would not be adopted by CARB, received an Act waiver/authorization, and approved by U.S. EPA within the timeframe specified, making many of the options infeasible. Based on the U.S. EPA FIP timeline, CARB staff would need to find a measure that could realistically be adopted and approved by U.S. EPA within the next year. However, most CARB measures must go through a regulatory process for adoption that can take approximately five years from start to finish.

Table 51. Assessment of Potential CARB Contingency Measures

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Light-Duty Passenger Vehicles and Light-Duty Trucks	Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle (ZEV) Regulation	Amended 8/25/22 Requires 100% ZEV new vehicle sales by 2035 and increasingly stringent standards for gasoline cars and passenger trucks.	Pulling compliance timelines forward. Setting more stringent standards.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or manufacturing requirements within 60 days and achieve reductions within one year.	No; current standards and requirements are technology forcing and most stringent in the nation, including a zero-emission requirement. Further stringency would not be feasible.
	Clean Miles Standard	Adopted 5/20/21 Set eVMT (electric miles traveled) and greenhouse gas (GHG) requirements for Transportation Network Companies (TNCs).	Pulling forward timeline to achieve 100% eVMT.	No; standards and fleet requirements need lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; zero-emissions technology requirement is most stringent standard; TNCs are only a small portion of on-road vehicles, depending on area, may not achieve many reductions.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
	On Board Diagnostics II (OBD)	Amended July 22, 2021 Required updates to program to address cold start emissions and diesel particulate matter (PM) monitoring. Many of the regulatory changes included phase-ins that are not 100% until 2027.	Removing or pulling phase-in timelines forward. Setting more stringent OBD requirements.	No; OBD requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	No; the OBD requirements require sufficient lead time to implement with significant development time needed for hardware/ software changes and verification/validation testing.
	California Smog Check Program	Amended 2010 via legislation Smog Check Program enhancements, including new technologies and test methods.	Change the exemptions from 8 to 7 and/or 6 model years. Require annual Smog Check. Require annual Smog Check for only high mileage vehicles.	Yes (changing the exemptions) because it is not a regulatory change; No (other options); Smog Check requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	Yes (changing the exemptions) and would not have disproportionate impacts; Yes (other options), but would disproportionately impact low-income populations and disadvantaged communities.
	Reformulated Gasoline	Amended May 2003 Required removal of methyl tert-butyl ether (MTBE) and included refinery limits and cap limits.	Require more stringent standards. Change cap limits and refinery limits.	No; fuel standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; current standards and requirements are some of most stringent in the world; not feasible to require further stringency of specifications and develop or manufacture in a compressed timeline.
Motorcycles	On-Road Motorcycle Regulation*	Proposed hearing: 2023 May require exhaust emissions standards (harmonize with European standards), evaporative emissions standards, and Zero Emission Motorcycle sales thresholds.	Pulling compliance timelines forward. Require more stringent emissions standards.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; Any increase to the stringency of proposed standards would require an additional 1 to 2 years of lead time for 1) CARB staff to evaluate feasibility, and 2) manufacturers to develop and certify compliant motorcycles.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Medium Duty-Trucks	Clean Diesel Fuel	Amended 2013 Established more stringent standards for diesel fuel.	Require more stringent fuel standard.	No; fuel standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; infeasible to require more stringent standards in compressed timeline.
	Heavy-Duty Engine and Vehicle Omnibus Regulation	Adopted 8/27/20 Established new low NOx and lower PM tailpipe standards and lengthened the useful life and emissions warranty of in-use heavy-duty diesel engines.	Require more stringent standard, make optional idling standard required. Update testing requirements or corrective action procedures.	No; standards need years of lead time to be implemented; infeasible to implement new sales requirement within 60 days and achieve reductions within one year.	No; infeasible to require more stringent standards in compressed timeline.
	Advanced Clean Trucks Regulation	Adopted 6/25/20 Established manufacturer zero-emission truck sales requirement and company and fleet reporting.	Move up timeline for ZEV sales requirement. Reduce threshold for compliance.	No; manufacturer sales requirements need years of lead time to be implemented; infeasible to implement new sales requirement within 60 days. Sales requirement would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current sales requirement is technology forcing and most stringent in the nation.
	Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle Regulation	Amended 8/25/22 Requires 100% ZEV new vehicle sales by 2035 and increasingly stringent standards for gasoline cars and passenger trucks.	Pulling compliance timelines forward. Setting more stringent standards.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or manufacturing requirements within 60 days and achieve reductions within one year.	No; current standards and requirements are technology forcing and most stringent in the nation, including a zero-emission requirement. Further stringency would not be feasible.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.
Heavy-Duty Trucks	Heavy-Duty Low NOx Engine Standards	See Omnibus.	More stringent standards were set with Omnibus Regulation.	No; engine standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; infeasible to require more stringent technology forcing standards in compressed timeline if technology/ alternatives are not widely available.
	Optional Low-NOx Standards for Heavy-Duty Diesel Engines	Amended 8/27/20 as a part of Omnibus to lower the optional low NOx emission standards for on-road heavy-duty engines.	Make option required.	No; engine standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; infeasible to require more stringent technology forcing standards in compressed timeline if technology/ alternatives are not widely available.
	Heavy-Duty Inspection and Maintenance Regulation	Adopted 12/9/21 Requires periodic vehicle emissions testing and reporting on nearly all heavy-duty vehicles operating in California.	Increase frequency of testing.	No; increased I/M requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	Yes, but costs would disproportionally impact small businesses and low-income populations.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
	Heavy-Duty OBD	Amended July 22, 2021 Required updates to program to address cold start emissions and diesel PM monitoring. Many of the regulatory changes included phase-ins that are not 100% until 2027.	Removing or pulling phase-in timelines forward. Setting more stringent OBD requirements.	No; OBD requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	No; the OBD requirements require sufficient lead time to implement with significant development time needed for hardware/ software changes and verification/validation testing.
	Heavy-Duty Engine and Vehicle Omnibus Regulation	Adopted 8/27/20 Established new low NOx and lower PM Standards and lengthened the useful life and emissions warranty of in-use heavy-duty diesel engines.	Require more stringent standard, make optional idling standard required. Update testing requirements or corrective action procedures.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or sales requirements within 60 days and achieve reductions within one year.	No; infeasible to require more stringent technology forcing standards in compressed timeline.
	Cleaner In-Use Heavy-Duty Trucks (Truck and Bus Regulation)	Adopted 12/17/10 Requires heavy-duty diesel vehicles that operate in California to reduce exhaust emissions. By January 1, 2023, nearly all trucks and buses will be required to have 2010 or newer model year engines to reduce PM and NOx.	None	-	-
	Zero-Emission Powertrain Certification Regulation	Adopted 12/6/19 Establishes certification requirements for zero-emission powertrains.	None	-	-

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
	Advanced Clean Trucks Regulation	Adopted 6/25/20 Established manufacturer zero-emission truck sales requirement and company and fleet reporting.	Move up timeline for ZEV sales requirement. Reduce threshold for compliance.	No; manufacturer sales requirements need years of lead time to be implemented; infeasible to implement new sales requirement within 60 days. Sales requirement would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current sales requirement is technology forcing and most stringent in the nation.
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.
Heavy-Duty Urban Buses	Innovative Clean Transit	Adopted 12/14/2018 Requires all public transit agencies to gradually transition to a 100% zero-emission bus fleet.	Move compliance timelines forward. Remove various exemptions or compliance options.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year.	No; current requirements are technology forcing and most stringent (zero-emission requirement). Further stringency is not possible; expediting timelines would not be feasible.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.
Other Buses, Other Buses – Motor Coach	Zero-Emission Airport Shuttle Regulation	Adopted 6/27/19 Requires airport shuttles to transition to zero-emission fleet.	Pull compliance timelines forward. Remove reserve airport shuttle exemption.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year.	No; current requirements are technology forcing and most stringent (zero-emission requirement). Further stringency is not possible. Not many shuttles in area, would not achieve many reductions.
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Commercial Harbor Craft	Commercial Harbor Craft (CHC) Regulation	Amended 3/24/22 Established more stringent standards, all CHC required to use renewable diesel, expanded requirements, and mandates zero-emission and advanced technologies.	Set more stringent standards. Pull compliance timelines forward.	No; Technology requirements and standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or requirements within 60 days and achieve reductions within one year.	No; standards set are technology forcing and most stringent; not technologically feasible to require increased stringency in compressed timeline.
Recreational Boats	Spark-Ignition Marine Engine Standards*	Proposed hearing: 2029 Would establish catalyst-based emission standards and percentage of zero-emission technologies for certain applications.	Set more stringent standard.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; standards being set will be most stringent feasible, including zero-emission requirement); would not save a more stringent standard for contingency
Transport Refrigeration Units	Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRUs) (Parts I and II*)	Amended 2/24/22 (Part I), Part II proposed CARB hearing in 2025 Requires diesel-powered truck TRUs to transition to zero-emission, PM emission standard for newly manufactured non-truck TRUs. Part II would establish zero-emission options for non-truck TRUs.	Set more stringent standards. Pull compliance timelines forward	No; standards and fleet requirements need years of lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; current requirements are technology forcing and most stringent (zero-emission requirement). Further stringency is not possible; expediting timelines would not be feasible; would not save a more stringent standard for contingency
Industrial Equipment	Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation	Amended July 2016 Extended recordkeeping requirements, established labeling, initial reporting, and annual reporting requirements.	Set more stringent performance standards	No; standards and fleet requirements need years of lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification. See Zero-Emission Forklifts below.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
	Off-Road Regulation	Amended 11/17/22 Requires phase out of oldest and highest-emitting engines, restricts addition of Tier 3 and 4i engines, mandates renewable diesel for all fleets.	Pull phase-out or compliance timelines forward	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.
	Zero-Emission Forklifts*	Proposed CARB hearing in 2023. Would require model-year phase-out and reporting requirements and manufacturer sales restrictions.	Pull phase-out or compliance timelines forward	No; standards requirements need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
	Off-Road Zero-Emission Targeted Manufacturr Rule*	Proposed CARB hearing in 2027. Would require manufacturers of off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume.	Pull forward compliance timelines or increase percentage sales requirements	No; Manufacturing and sales requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
Constructio n and Mining	Off-Road Zero-Emission Targeted Manufacturr Rule*	Proposed CARB hearing in 2027. Would require manufacturers of off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume.	Pull forward compliance timelines or increase percentage sales requirements	No; Manufacturing and sales requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
	Off-Road Regulation	Amended 11/17/22 Requires phase out of oldest and highest-emitting engines, restricts addition of Tier 3 and 4i engines, mandates renewable diesel for all fleets.	Pull phase-out or compliance timelines forward	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.
Airport Ground Support Equipment	Zero-Emission Forklifts*	Proposed CARB hearing in 2023. Would require model-year phase-out and reporting requirements and manufacturer sales restrictions.	Pull phase-out or compliance timelines forward	No; standards requirements need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
	Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation	Amended July 2016 Extended recordkeeping requirements, established labeling, initial reporting, and annual reporting requirements.	Set more stringent performance standards	No; standards and fleet requirements need years of lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.
	Off-Road Regulation	Amended 11/17/22. Requires phase out of oldest and highest-emitting engines, restricts addition of Tier 3 and 4i engines, mandates renewable diesel for all fleets.	Pull phase-out or compliance timelines forward	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Port Operations and Rail Operations	Cargo Handling Equipment Regulation*	Proposed CARB hearing in 2025. Amendments to transition to zero-emission technology.	None	No; Standards requirements need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year. Fully implemented in 2017 and relies on other engine standards, making it infeasible to trigger without regulatory process changing other standards.	No; Considering regulation to move towards zero-emissions. Currently assessing availability of technologies.
	Off-Road Zero-Emission Targeted Manufacturer Rule*	Proposed CARB hearing in 2027. Would require manufacturers of off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume.	Pull forward compliance timelines or increase percentage sales requirements	No; Manufacturing and sales requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
Lawn and Garden	Small Off-Road Engine (SORE) Regulation	Amended 12/9/21 Requires most newly manufactured SORE to meet emission standards of zero starting in model year (MY) 2024.	Move up implementation deadlines	No; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current standards and requirements are a technology forcing zero-emission certification requirement. Further stringency would not be possible.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Ocean-Going Vessels	At Berth Regulation	Amended 8/27/20 Expands requirements to roll-on roll-off vessels and tankers, smaller fleets, and new ports and terminals.	Remove option to use alternate control technology or set more stringent alternate control technology requirements. Reduce threshold for 'low activity terminals' exemption.	No; control technology requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; regulation already requires use of shore power or alternate control technology for every visit.
	Ocean-going Vessel Fuel Regulation	Amended 2011 Extended clean fuel zone and included exemption window.	Set more stringent requirements	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; not feasible to require further stringency in a compressed timeline.
Locomotives	In-Use Locomotive Regulation	Adopted 4/27/23, Requires each operator to deposit funds into spending account for purchasing cleaner locomotive technology, sets idling limits, and requires registration and reporting. Starting in 2030, only locomotives less than 23 years old can operate in the state. Newly built passenger, switch, and industrial locomotives must operate in a zero emission configuration, and in 2035 newly built freight line haul locomotives.	Move up implementation deadlines. Set stricter idling requirements.	No; Fleet requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and reductions within one year. No, for idling requirements.	No; current standards and requirements are technology forcing, include a zero-emission requirement. Further stringency would not be possible. No, for idling requirements, CARB is committing to re-evaluate the requirement during next assessment.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Areawide Sources	Zero-Emission Standard for Space and Water Heaters	Proposed CARB hearing in 2025. Beginning in 2030, 100% of sales of new space heaters and water heaters would need to meet a zero-emission standard.	Set trigger for more stringent standards or timelines.	No; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current standards and requirements are a technology forcing zero-emission certification requirement. Further stringency would not be possible.

There were few options identified for a contingency measure based on the infeasibility analysis. As previously stated, there are limitations to utilizing CARB regulations for contingency measures and CARB currently has programs in place or under development for most of these sources to reduce NOx, ROG and PM2.5 emissions. However, the analysis did result in identifying the ability to utilize provisions within the Smog Check Program for a viable contingency measure, which is now being proposed.

Appendix B:
Smog Check Contingency Measure Emissions Benefits Methodology

Smog Check Contingency Measure Emissions Benefits

Table 52. List of Non-Attainment Areas and Attainment Years

Standard	Area	Attainment Year
80 ppb 8-hour Ozone	San Joaquin	2023
75 ppb 8-hour Ozone	Sac Metro	2024
	Eastern Kern	2026
	West Mojave	2026
	San Diego	2026
	South Coast	2029
	Coachella Valley	2031
	SJV	2031
70 ppb 8-hour Ozone	Ventura	2026
	Western Nevada	2026
	Mariposa	2026
	Eastern Kern	2032
	Sacramento Metro	2032
	San Diego	2032
	West Mojave	2032
	South Coast	2035
	Coachella	2037
	SJV	2037
15 ug PM2.5	San Joaquin	2023
35 ug PM2.5	San Joaquin	2024
12 ug PM2.5	San Joaquin	2030
	South Coast	2030

Review Of Current Information

The EMission FACtor (EMFAC) model is California's official emissions inventory model for on-road mobile sources. EMFAC2021 is the latest U.S. Environmental Protection Agency (U.S. EPA) approved version for use in California for State Implementation Plan (SIP) development and transportation conformity analysis[22], and reflects the most recent emission and activity updates and newly adopted regulations at the time of its release. At the present time, almost the entire California vehicle fleet is subjected to the Smog Check Program and hence, in-use testing programs that inform emission rates in EMFAC2021 implicitly incorporate the emissions benefits of California's Smog Check Program in the model output. In addition, EMFAC2021 does not have functionality to output emissions from the light-duty

[22] *https://www.govinfo.gov/content/pkg/FR-2022-11-15/pdf/2022-24790.pdf*

fleet without the effects of Smog Check Program. However, an earlier version of the model, EMFAC2011, used a different modeling framework that allows users to estimate emissions impacts of the Smog Check based on user-defined program requirements specific to each NAA.[23]

Unlike the latest version of the model, EMFAC2011 baseline outputs reflect emissions from a fleet without an I/M Program. Because California's Smog Check Program began in 1984, emissions data without an I/M program in EMFAC2011 were derived from U.S. EPA data collected on approximately 7,000 vehicles in Hammond, Illinois and Ann Arbor, Michigan in the 1990s before an I/M program was in effect.[24] CARB staff used these data for several versions of the model, up through EMFAC2011, to inform emission rates by vehicle technology group for a theoretical California fleet without an I/M program. Using data from CARB's longstanding Light-Duty Vehicle Surveillance Program (VSP), where vehicles failing the California Smog Check Program were tested before and after repairs, CARB staff adjusted baseline emission rates to reflect the benefits of having an I/M program based on requirements for each region in the State.

Approach

Since the Measure would change the current 8 model-year exemption to 7 model-years, CARB staff applied emission benefits of the change to the calendar year when vehicles would become 8 model-years old. Using this approach, all vehicles, regardless of when annual registration is due and the initial I/M Program inspections were performed during the year the vehicles turned 7 model-years old, will reflect the impacts of being initially subject to the I/M Program requirements for a full calendar year.

CARB staff used EMFAC2011 to derive the emissions impact of an I/M Program for each pollutant and vintage of vehicle newly becoming 8 model-years old in the attainment years listed in Table 52. The emissions impact is reflected as a ratio of emissions with no I/M Program relative to a baseline with an I/M program. As a fraction, this would be: (no-I/M) / (I/M), where ratios greater than one reflect the degree of emissions benefits of having an I/M program in place. CARB staff applied the ratios calculated using EMFAC2011 to the output from EMFAC2021[25] because the newest model represents the current California fleetwide emissions reflecting the current model year distribution, populations, accrual rates (miles driven per year), and emissions rates. The details of EMFAC2011 setup and run are provided in in the next section.

CARB staff applied the following equation:

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[23] *https://www.federalregister.gov/documents/2013/03/06/2013-05245/official-release-of-emfac2011-motor-vehicle-emission-factor-model-for-use-in-the-state-of-california*

[24] *https://ww2.arb.ca.gov/sites/default/files/2023-03/emfac2000-ef.pdf*

[25] Downloaded from EMFAC2021 web database: *https://arb.ca.gov/emfac/emissions-inventory*

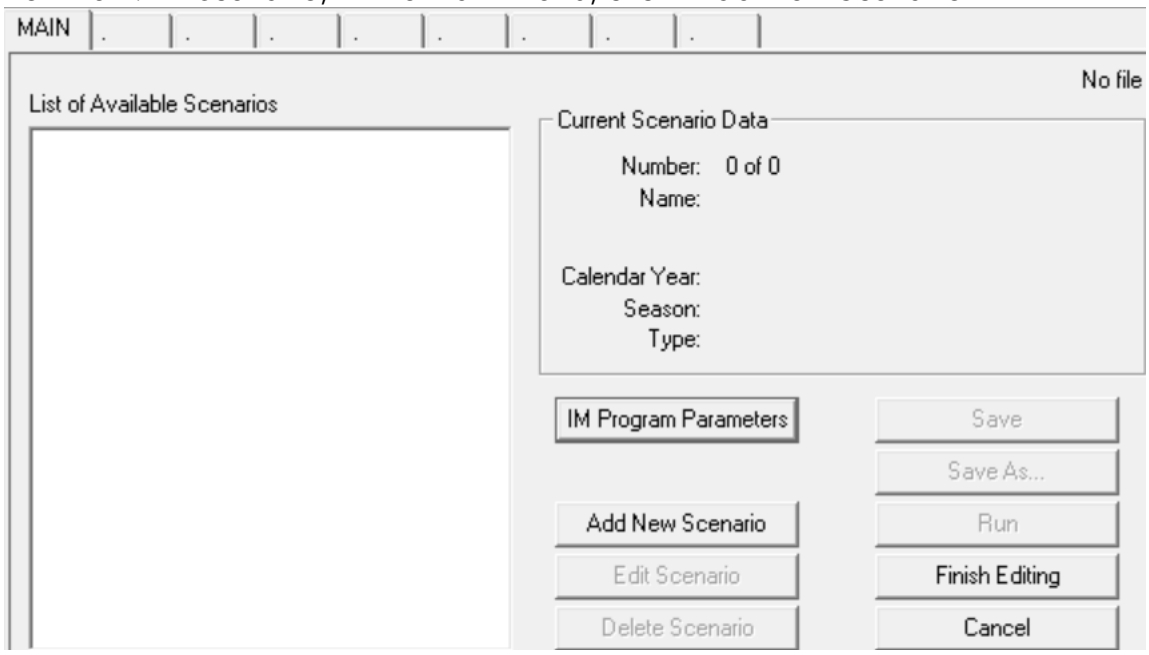
Benefits of removing 8-year exemption = Age 8 No-I/M emissions – Age 8 I/M emissions = (EMFAC2021 Age 8 Gasoline Vehicle Emissions[26] × EMFAC2011 Age 8 No-IM/IM Ratio[27]) – EMFAC2021 Age 8 Gasoline Vehicle Emissions[26]

For ozone nonattainment areas, the estimated benefits include NOx and ROG in tons per day for summer season. For $PM_{2.5}$ nonattainment areas, because EMFAC2011 does not reflect benefits from tailpipe PM emissions from the Smog Check Program, the annual NOx and ROG emission benefits are included instead, as these are precursors to secondary $PM_{2.5}$ formation in the atmosphere.

It should be noted that, some of CARB's recent regulations, including Advanced Clean Cars II (ACC II) and Advanced Clean Fleets (ACF) were finalized and adopted after release of EMFAC2021. Therefore, the emission benefits estimated for this Measure using EMFAC2021 do not reflect the impacts from these regulations.

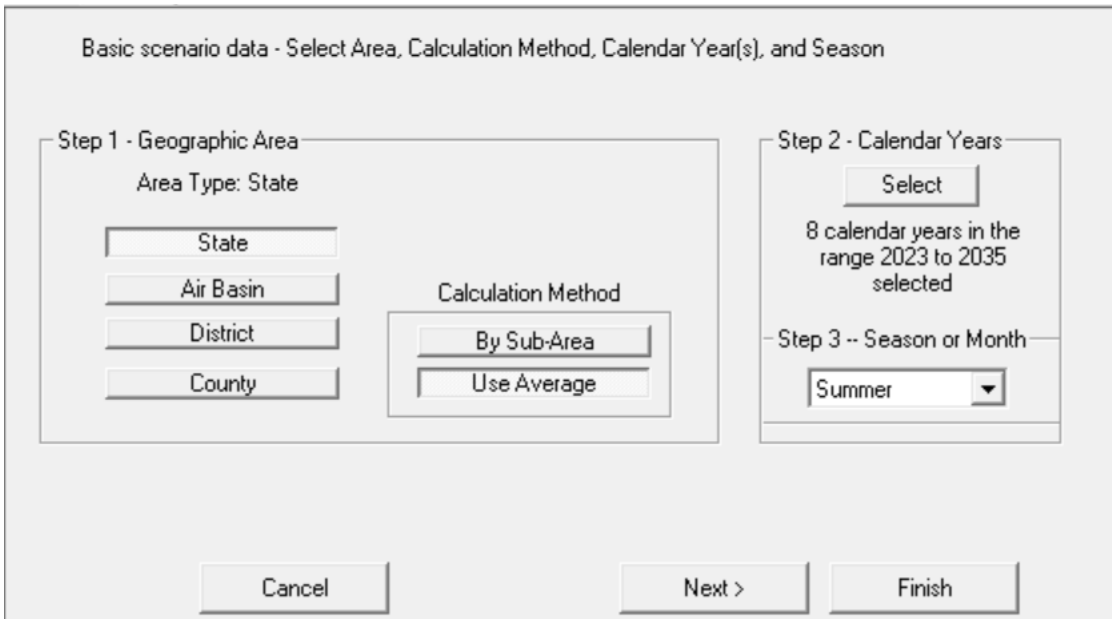
Instructions For Configuring and Running EMFAC2011

1. For the "I/M" scenario, in the main menu, click "Add New Scenario".

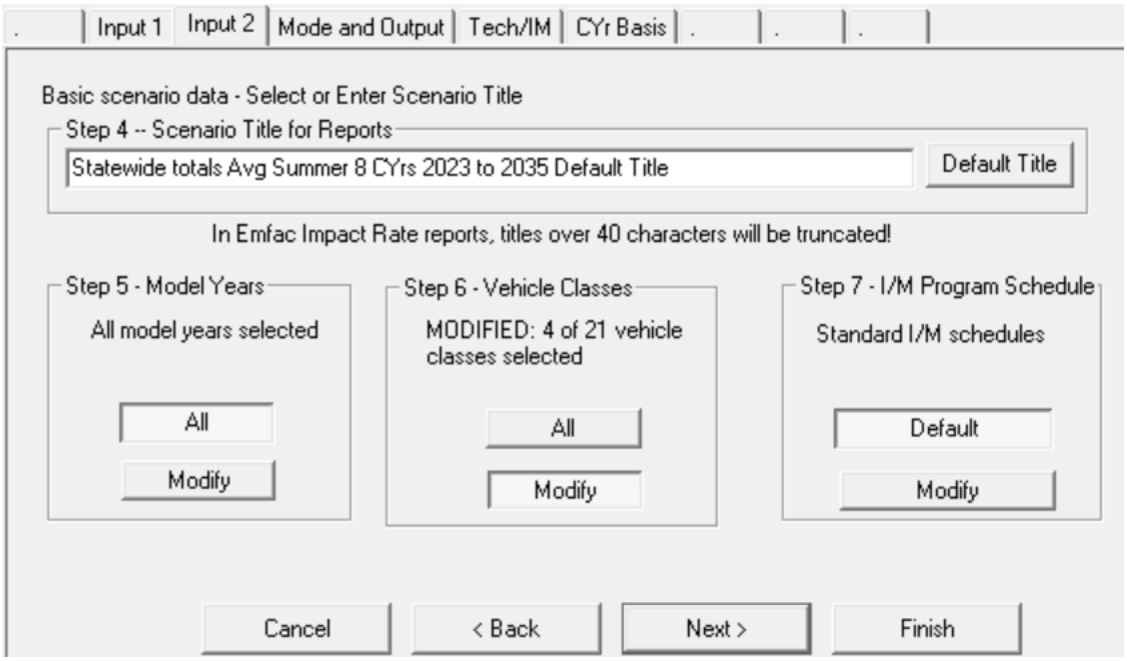


2. Select "State", "Use Average" in "Step 1 – Geographic Area", select modeled calendar year(s) in "Step 2 – Calendar Years", Select "Summer" for ozone NAAs or "Annual" for PM NAAs in "Step 3 - Season or Month", then click "Next".

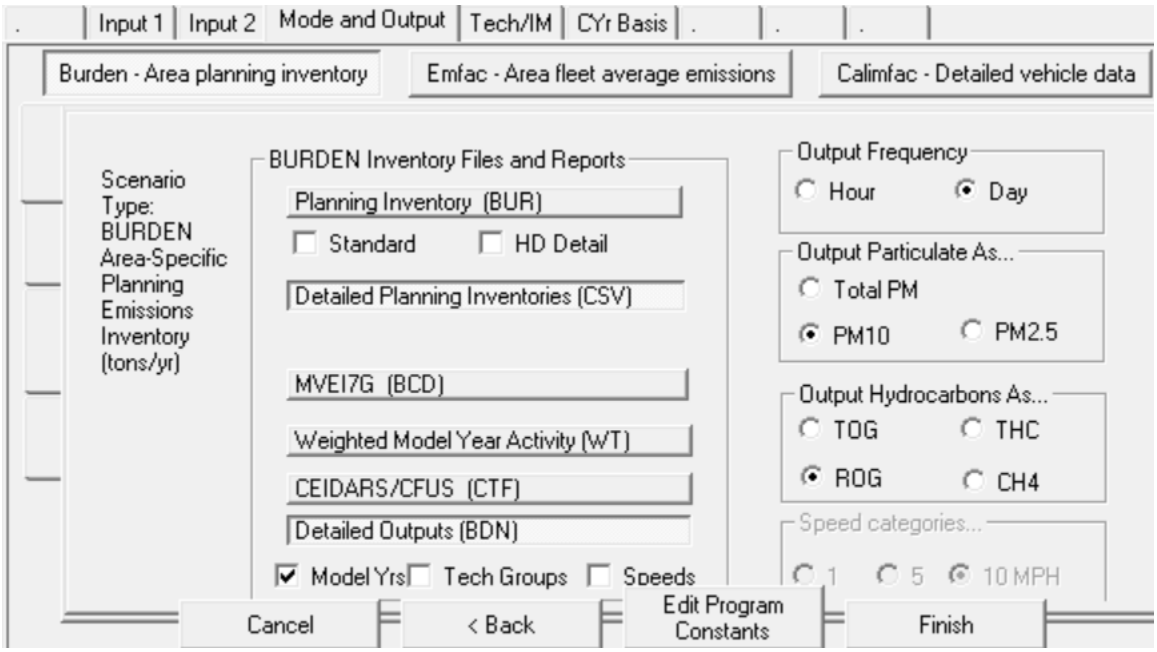
[26] Include all gasoline vehicle classes subject to California Smog Check Program
[27] Derived based on light-duty vehicle classes under 8,500 lbs. in EMFAC2011



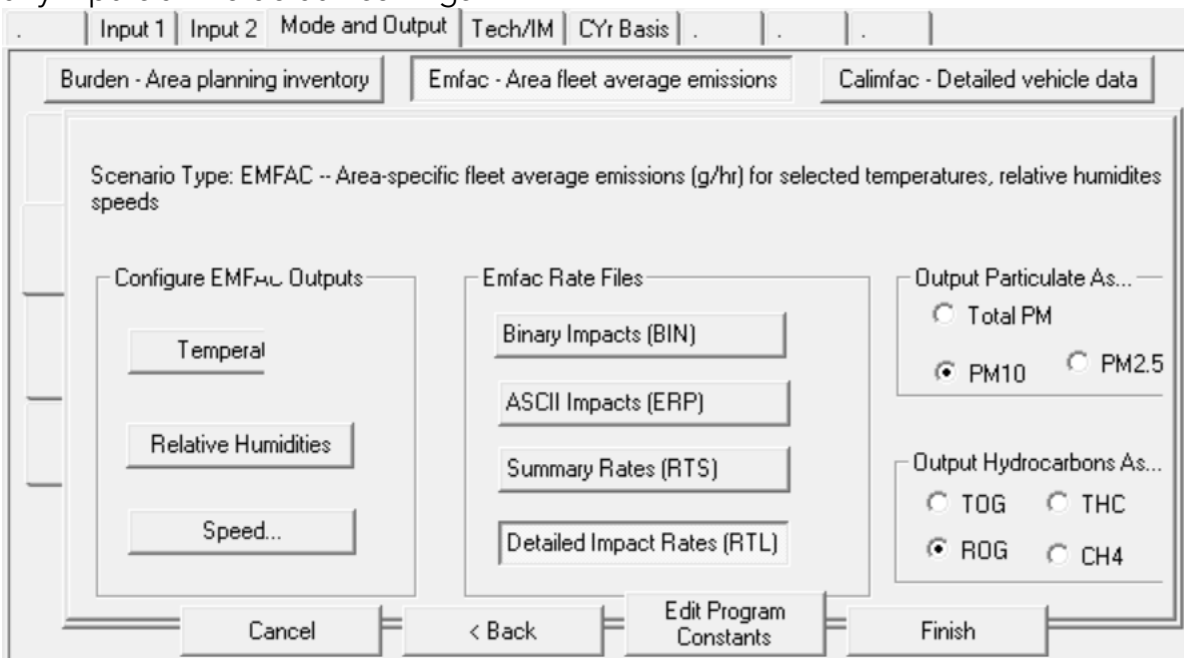
3. Click "Default Title" in "Step 4 – Scenario Title for Reports", select "All" in "Step 5 – Model Years", select "Modify" in "Step 6 – Vehicle Classes" and choose "PC/T1/T2/T3" from the pop-up window, select "Default" in "Step 7 – I/M Program schedule", then click "Next".



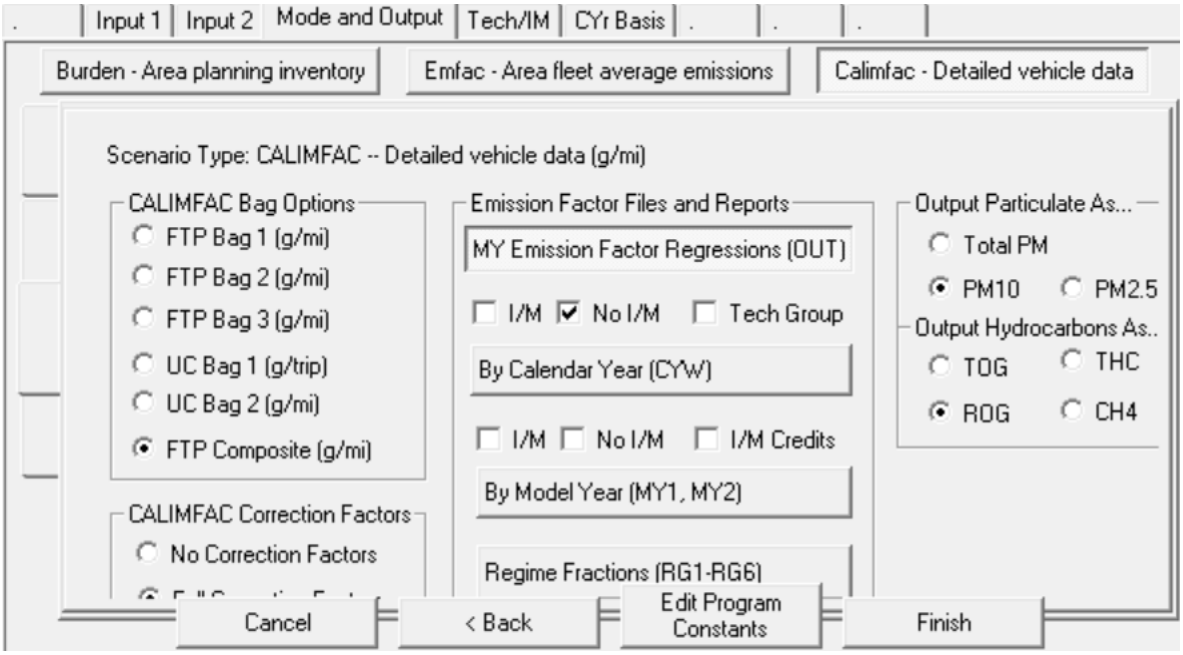
4. In the tab "Burden – Area planning inventory", choose "Detailed Planning Inventories (CSV)" and click "Model Yrs". Select "Output Frequency" as "Day".



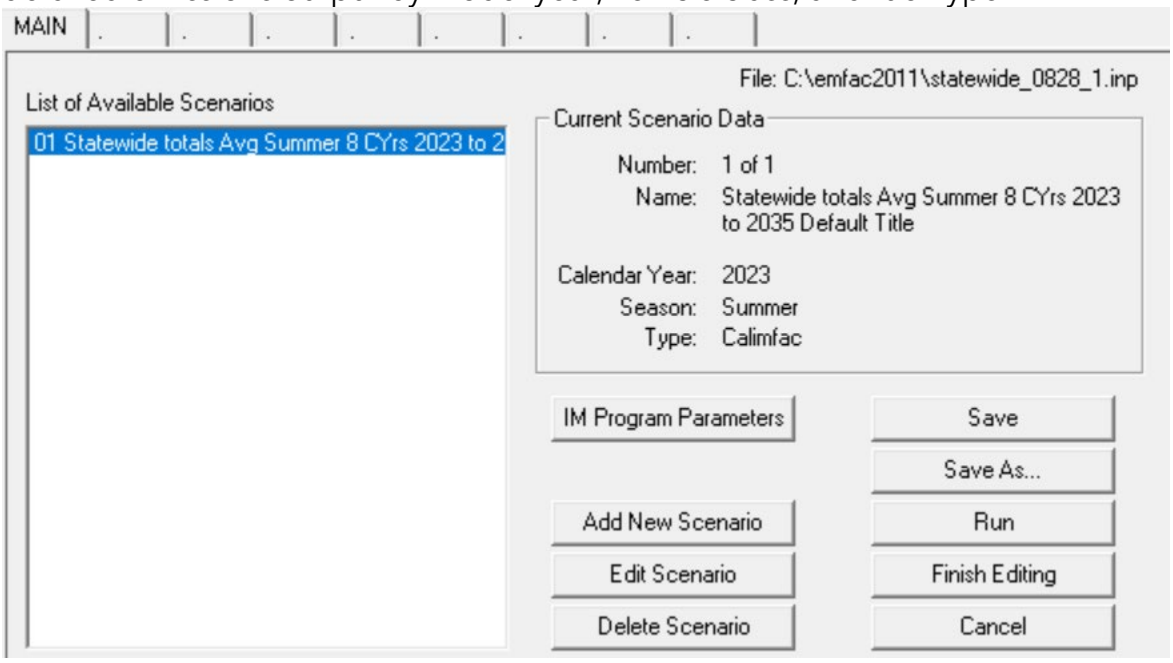
5. No need to change any inputs in tab "Emfac – Area fleet average emissions". Leave any inputs at the default settings.



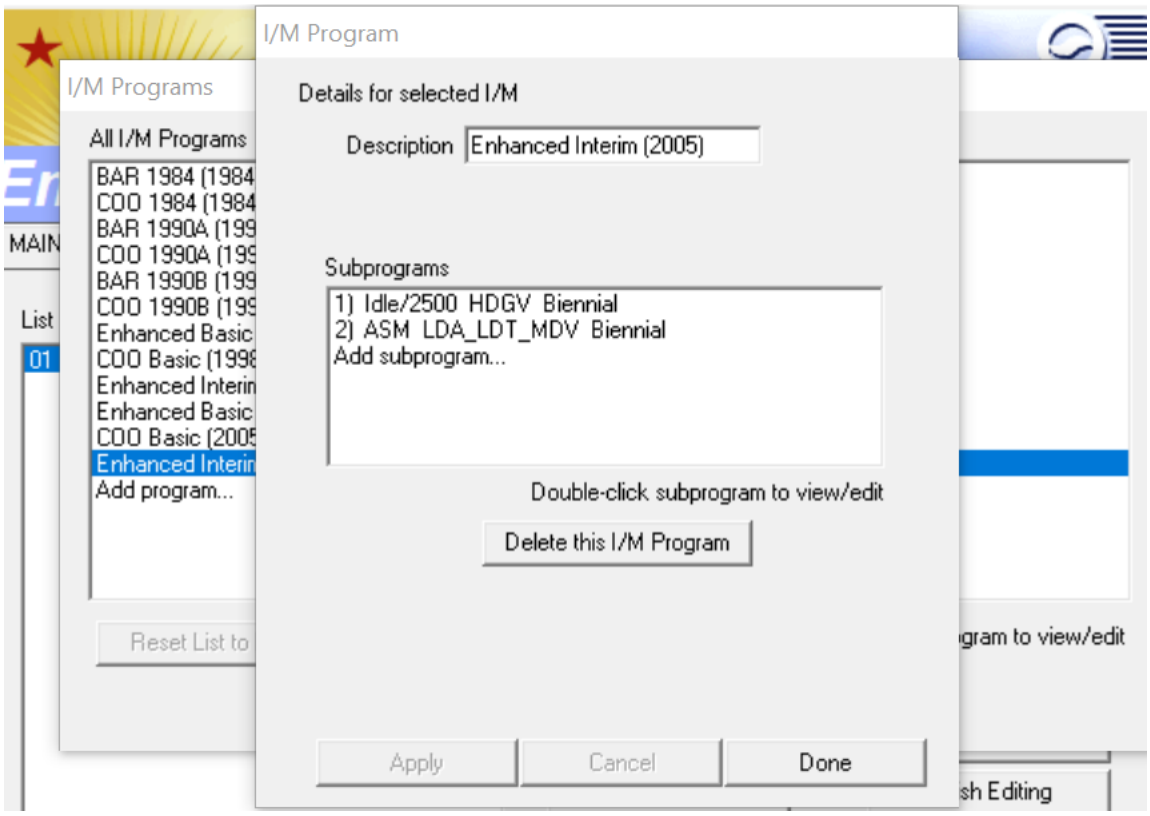
6. No need to change any inputs in tab "Calimfac – Detailed vehicle data". Leave any inputs at the default settings. Click "Finish" to go back to the main menu.



7. In the "MAIN" menu, save the current input by clicking "Save", then click "Run" to start the model run. Only the .bdn output file is needed for data analysis, which shows the detailed emissions output by model year, vehicle class, and fuel type.



8. For "No-I/M" scenario, repeat Steps 1 to 6, except that in the main menu, click "IM Program Parameters", double click each program and delete, and click "Done" to go back to the main menu. Then proceed to Step 7 to start the model run.


I/M Program
I/M Programs
Details for selected I/M
All I/M Programs
Description
Enhanced Interim (2005)
Subprograms
1) Idle/2500 HDGV Biennial
2) ASM LDA_LDT_MDV Biennial
Add subprogram...
Double-click subprogram to view/edit
Delete this I/M Program
Apply
Cancel
Done

Appendix C:
Carl Moyer Program Emissions Impacts Analysis Methodology

Moyer Program Emissions Reductions Estimates Methodology

CARB staff conducted analysis to determine the potential disbenefit of the Measure resulting from a potential loss in funding for the Moyer Program. If the Measure is triggered, the Moyer Program would receive less funding from fewer smog abatement fees being collected, as discussed in section 4C of this document. The calculation of the potential emissions disbenefit from losing Moyer Program funding consisted of two main components:

1. Vehicle Population
2. Moyer Program Statewide NOx Cost Effectiveness

The vehicle populations were estimated using EMFAC2021 and calculated as described in Appendix B. The statewide cost effectiveness was estimated as described in Appendix H of the Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives.[28]

The methodology for calculating the potential emissions reductions loss is as follows:

First, CARB staff calculated the potential loss in funding by multiplying the smog abatement fee directed towards the Moyer Program of $21 by the estimated vehicle population affected in each area for their respective attainment year. This results in the statewide total potential loss in funding if triggered in the respective area. An example calculation from a theoretical area missing attainment in 2023 is shown below.

$$Total\ potential\ loss\ in\ funding\ resulting\ from\ an\ area\ missing\ attainment\ in\ 2023 = Portion\ of\ smog\ abatement\ fee\ to\ Moyer * 8MYO\ vehicle\ population\ in\ nonattainment\ area\ in\ 2023$$

Next, to find the area-specific foregone funding and related emission reductions, CARB staff used three years of historical Moyer Program funding allocations to local air districts to calculate the average proportion of funding typically awarded to each district. This district allocation calculation is done for each nonattainment area's corresponding local air district. An example calculation for a single local air district (District X) is shown below.

$$District\ Allocation\ (\%) = \frac{Historical\ Average\ allocation\ to\ District\ X\ (\$)}{Total\ Carl\ Moyer\ Program\ Funding\ (\$)}$$

The local air district allocation percentage for each area is then applied to the calculated loss in funding. This results in the potential loss in funding for each specific local air district.

[28] https://ww2.arb.ca.gov/sites/default/files/2022-10/proposed_fy2022_23_funding_plan_final.pdf

$$Loss\ in\ funding\ for\ District\ X\ (\$) = District\ Allocation\ (\%) * Total\ potential\ loss\ in\ funding$$

Divide the total loss in funding calculated for each area by the statewide NOx cost effectiveness and convert to tons per day. Each project is assumed to have a 10-year project life.

$$Loss\ in\ reductions\ (tpd) = \frac{Loss\ in\ funding\ for\ District\ X\ (\$)}{statewide\ NOx\ cost\ effectiveness/10/365\ \left(\frac{\$}{ton}\right)}$$

The result is the total loss in potential emissions reductions for each district from foregone funding for Moyer Program projects.

Appendix D:
California Health and Safety Code § 44011(a)(4)(A) and (B)

State of California

HEALTH AND SAFETY CODE

Section 44011

44011. (a) All motor vehicles powered by internal combustion engines that are registered within an area designated for program coverage shall be required biennially to obtain a certificate of compliance or noncompliance, except for the following:

[redacted]

(4) (A) Except as provided in subparagraph (B), all motor vehicles four or less model-years old.

(B) (i) Beginning January 1, 2005, all motor vehicles six or less model-years old, unless the state board finds that providing an exception for these vehicles will prohibit the state from meeting the requirements of Section 176(c) of the federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.) or the state's commitments with respect to the state implementation plan required by the federal Clean Air Act.

(ii) Notwithstanding clause (i), beginning January 1, 2019, all motor vehicles eight or less model-years old, unless the state board finds that providing an exception for these vehicles will prohibit the state from meeting the requirements of Section 176(c) of the federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.) or the state's commitments with respect to the state implementation plan required by the federal Clean Air Act.

(iii) Clause (ii) does not apply to a motor vehicle that is seven model-years old in year 2018 for which a certificate of compliance has been obtained.

[redacted]

[redacted]

(Amended by Stats. 2017, Ch. 633, Sec. 1. (AB 1274) Effective October 10, 2017.)