Western Mojave Desert Infeasibility Analysis for the Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard

Proposed for adoption on April 16, 2024

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AVAQMD Contingency Measures for the 75 ppb Ozone Attainment Plan

Section 1 - Overview

The United States Environmental Protection Agency (USEPA) designated the Western Mojave Desert Nonattainment Area (WMDONA) as nonattainment for the March 2008 75 ppb 8-hour ozone National Ambient Air Quality Standard (NAAQS) pursuant to the provisions of the Federal Clean Air Act (FCAA). The entire Antelope Valley Air Quality Management District (AVAQMD) is included in the WMDONA.

In response to court decisions which altered the interpretation of contingency measure requirements, USEPA released the Draft Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (Draft Guidance).[1] The Draft Guidance confirms that contingency measures need to include automatic triggering mechanisms, and cannot rely on surplus emission reductions of previously implemented emission reduction measures. It also defines the amount of emission reductions that contingency measures are required to achieve. In the event that the required amount of reductions cannot be achieved by the contingency measure, the Draft Guidance requires the development of a reasoned justification for achieving less than the required amount. The California Smog Check Contingency Measure is expected to achieve less than the required amount of reductions. However, AVAQMD and CARB were not able to identify any other feasible contingency measures.

AVAQMD has prepared a contingency measure, the CARB California Smog Check Contingency Measure along with an Infeasibility Analysis for the Western Mojave Desert Nonattainment Area Contingency Measure Requirement for the 2008 8-Hour Ozone Standard in order to satisfy applicable Clean Air Act (CAA) requirements. In addition, Mojave Desert Air Quality Management District (MDAQMD) has prepared two contingency measures, the MDAQMD Enhanced Vehicle Inspection and Maintenance Program, and CARB California Smog Check Contingency Measure along with and Infeasibility Analysis. Although MDAQMD's contingency measures, if triggered, does not span into the AVAQMD, it does pertain to the WMDONA as a whole and will result in some reductions. This SIP revision is focused on satisfying the requirement for contingency measure elements for the plan. Contingency measures are defined by CAA Section 172(c)(9) as "specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date." CAA Section 182(c)(9) further requires that ozone nonattainment areas classified as "serious" or above provide for contingency measures to be implemented if the area fails to meet any applicable milestone. This SIP revision satisfies requirements for reasonable further progress (RFP) and attainment contingency measures.

[1] Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter. March 17, 2023.

List of Acronyms

BACT	Best Available Control Technology
BAR	Bureau of Automotive Repair
BARCT	Best Available Retrofit Control Technology
CARB	California Air Resources Board
FIP	Federal Implementation Plan
FCAA	Federal Clean Air Act
FONA	Federal Ozone Nonattainment Area
H&S Code	California Health & Safety Code
MACT	Maximum Achievable Control Technology
MDAQMD	Mojave Desert Air Quality Management District
NSPS	New Source Performance Standards
NSR	New Source Review
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds
WMD	Western Mojave Desert
WMDONA	Western Mojave Desert Ozone Nonattainment Area

Background on the WMDONA Contingency Measure for the 2008 Ozone Standard

42. U.S.C. §§7502(c)(9) and 7511a(c)(9) (Federal Clean Air Act §§172(c)(9) and 182(c)(9)) requires attainment plans for areas designated nonattainment and classified moderate and above to include contingency measures that would provide additional emissions reductions. Such contingency measures would only be implemented in the event that the area fails to meet statutory deadlines related to contingency measures.

The contingency measure identified for the Western Mojave Desert Nonattainment Area at the time of development of the AVAQMD 75 ppb Ozone Attainment Plan was the MDAQMD Enhanced Vehicle Inspection and Maintenance Program.

On October 31, 2022 USEPA finalized a finding of failure to submit contingency measure elements for the 2008 ozone NAAQS. The finding established an 18-month deadline for the AVAQMD and MDAQMD to submit contingency measures for the Western Mojave Desert Nonattainment Area or face stationary source permitting sanctions as defined in CAA Section 179(b)(2). There is also a 24-month deadline for highway sanctions as defined in CAA Section 179(b)(1). Submission of the SIP revision followed by a completeness determination by USEPA will stay the sanctions. In addition, if within 24 months USEPA has not approved a contingency measure SIP revision, USEPA must promulgate a federal contingency measure plan in the WMDONA.

Setting

The AVAQMD includes the Los Angeles County portion of the Antelope Valley. The USEPA designated the northern desert part of Los Angeles County as nonattainment for the 75 ppb 8-hour ozone NAAQS. The ozone design value classifies the area as a Severe nonattainment area with 2026 as the required attainment year (42 U.S.C. 7511(a)(2); FCAA §181(a)(2)). The Antelope Valley is downwind of the SCAQMD, and to a lesser extent, is downwind of the San Joaquin Valley. Prevailing winds transport ozone and ozone precursors from both regions into and through the Antelope Valley during the summer ozone season. These transport couplings have been officially recognized by CARB. Local Antelope Valley emissions contribute to exceedances of both the national and state ambient air quality standards for ozone, but photochemical ozone modeling conducted by the SCAQMD and CARB indicates that the Antelope Valley would be in attainment of both standards without the influence of this transported air pollution from upwind regions. The meteorology, terrain, distribution of emissions, and transport mechanisms are the key factors driving the ozone nonattainment challenge. [2],

[2] "Ozone Transport: 2001 Review," April 2001, CARB identifies the South Coast Air Basin as having an overwhelming and significant impact on the Mojave Desert Air Basin (which includes the Mojave Desert) and the San Joaquin Valley as having an overwhelming impact on the MDAB.

The Antelope Valley covers 1300 square miles and included 219,628 persons as of the 1990 census (approximately 366,000 in 2015), centered within the cities of Lancaster and Palmdale. The region is characterized by a wide, arid valley with little precipitation. The District has industry that is directly related to aerospace research and development as well as manufacturing.

The primary roadways in the AVAQMD are State Route 14 and State Route 138. Both of these highways carry a significant amount of transiting heavy-duty truck traffic, and State Route 14 carries a substantial amount of commuter traffic into the greater Los Angeles Basin. The AVAQMD is a growing bedroom community for the greater Los Angeles area, but does have significant mining and military support activity.

Contingency Measures for Stationary and Mobile Sources

The AVAQMD Contingency Measure SIP revision for the 2008 75 ppb ozone standard contains analysis documenting the scarcity of available contingency measures for stationary sources and a commitment to maintaining and providing mobile source measures for the WMDONA including the MDAQMD's Enhanced Vehicle Inspection and Maintenance Program, as well as CARB's California Smog Check Contingency Measure

CARB California Smog Check Contingency Measure

A state mobile source contingency measure, the California Smog Check Contingency Measure was adopted by CARB in October 2023. Currently, new vehicles are exempt from the smog check program for the first 8 years. If triggered, the contingency measure will narrow the newer model year vehicle smog check exemption from 8 to 7 years and 7 to 6 years upon the first and second triggering, respectively. Emission reductions would be achieved by identifying additional emissions control equipment failures from vehicles previously exempt. On December 20, 2023, USEPA proposed approval of the smog check contingency measure.[3]

In response to court decisions which altered the interpretation of contingency measure requirements, USEPA released the 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).[4] The Draft Guidance confirms that contingency measures need to include automatic triggering mechanisms, and cannot rely on surplus emission reductions of previously implemented emission reduction measures. It also defines the amount of emission reductions that contingency measures are required to achieve. In the event that the required amount of reductions cannot be achieved by the contingency measure, the Draft Guidance requires the development of a reasoned justification for achieving less than the required amount.

[3] 88 FR 87981

[4] *Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter*. March 17, 2023.

Summary

The MDAQMD's enhanced smog check program and CARB California Smog Check Contingency Measure State Implementation Plan Revision are expected to achieve less than the required amount of reductions. However, the AVAQMD and CARB were not able to identify any other contingency measures due to the infeasibility of implementation according to EPA draft guidance timelines and/or lack of available non-technology forcing measures. Therefore, infeasibility justifications demonstrating the scarcity of further opportunities for stationary and mobile source contingency measures are presented in this document. Additionally, infeasibility justifications for Transportation Control Measures (TCMs) and area sources under CARB's authority are presented in Appendix A and Appendix B, respectively. The infeasibility justifications comprehensively evaluate all source categories contributing non-negligible VOC and NOx emissions in the WMDONA.

Section 2 - Emissions Inventory from the WMDONA

Emissions inventories are estimates of the amount and type of pollutants emitted into the atmosphere by facilities, mobile sources, and areawide sources. They are fundamental components of an air quality plan and serve critical functions such as:

1. the primary input to air quality modeling used in attainment demonstrations;
2. the emissions data used for developing control strategies; and
3. a means to track progress in meeting the emission reduction commitments.

The California Air Resources Board (CARB) and both the Antelope Valley Air Quality Management District and the Mojave Desert Air Quality Management District (Districts) have developed a comprehensive current emissions inventory. CARB and District staff conducted a thorough review of the inventory to ensure that the emission estimates reflect accurate emissions reports for point sources and that estimates for mobile and areawide sources are based on the most recent approved models and methodologies.
Table 1, 2 and 3 below present the summer planning emissions of VOC's and NOx for the WMD by major source category in 2012 (base year) and 2026 (attainment year).

Table 1: Base Year Emissions Inventory

All emissions are presented in tons per ozone seasonal day for the 2012 base year

	VOC	NOx
Stationary		
ELECTRIC UTILITIES	0.05	1.24
MANUFACTURING AND INDUSTRIAL	0.29	3.87
FOOD AND AGRICULTURAL PROCESSING	0.01	0.09
SERVICE AND COMMERCIAL	0.19	1.45
OTHER (FUEL COMBUSTION)	0.07	0.73
SEWAGE TREATMENT	0.12	0.00
LANDFILLS	0.16	0.02
INCINERATORS	0.00	0.06
OTHER (WASTE DISPOSAL)	0.05	0.00
DEGREASING	3.41	0.00
COATINGS AND RELATED PROCESS SOLVENTS	1.79	0.00
PRINTING	0.03	0.00
ADHESIVES AND SEALANTS	0.07	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.01	0.00
PETROLEUM MARKETING	5.52	0.00
CHEMICAL	0.50	0.01
FOOD AND AGRICULTURE	0.01	0.00
MINERAL PROCESSES	0.34	17.96
METAL PROCESSES	0.00	0.48
ELECTRONICS	0.01	0.00
OTHER (INDUSTRIAL PROCESSES)	0.18	1.60
Stationary Subtotal	**12.81**	**27.51**
Area-Wide		
CONSUMER PRODUCTS	4.49	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	2.45	0.00
PESTICIDES/FERTILIZERS	0.13	0.00
ASPHALT PAVING / ROOFING	0.31	0.00
RESIDENTIAL FUEL COMBUSTION	0.55	1.11
FARMING OPERATIONS	2.06	0.00
FIRES	0.02	0.00
MANAGED BURNING AND DISPOSAL	0.95	0.39
COOKING	0.45	0.00
Area-Wide Subtotal	**11.40**	**1.50**

On-Road Mobile		
LIGHT DUTY PASSENGER (LDA)	4.34	3.64
LIGHT DUTY TRUCKS - 1 (LDT1)	1.45	1.06
LIGHT DUTY TRUCKS - 2 (LDT2)	1.94	2.40
MEDIUM DUTY TRUCKS (MDV)	1.74	2.72
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.72	0.95
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.06	0.10
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.14	0.22
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.04	0.08
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.09	3.82
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.03	1.12
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	0.09	1.90
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	1.07	19.60
MOTORCYCLES (MCY)	1.35	0.46
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.07	1.10
HEAVY DUTY GAS URBAN BUSES (UB)	0.04	0.11
SCHOOL BUSES - GAS (SBG)	0.02	0.02
SCHOOL BUSES - DIESEL (SBD)	0.02	0.26
OTHER BUSES - GAS (OBG)	0.02	0.06
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.05
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.05
MOTOR HOMES (MH)	0.04	0.19
On-Road Mobile Subtotal	**13.28**	**39.93**

Other Mobile		
AIRCRAFT	1.47	1.36
TRAINS	1.78	28.42
RECREATIONAL BOATS	0.27	0.05
OFF-ROAD RECREATIONAL VEHICLES	0.75	0.04
OFF-ROAD EQUIPMENT	1.57	2.16
FARM EQUIPMENT	0.03	0.12
FUEL STORAGE AND HANDLING	0.35	0.00
Other Mobile Subtotal	**6.21**	**32.16**
WMDONA Total	***43.70***	***101.10***

Table 2: 2026 Forecasted Emission Inventories: VOC

VOC SUB CATEGORY	WMDAB 2012	WMDAB 2018	WMDAB 2020	WMDAB 2023	WMDAB 2026	AVAQMD 2026
ELECTRIC UTILITIES	0.05	0.04	0.04	0.05	0.05	0.00
MANUFACTURING AND INDUSTRIAL	0.29	0.36	0.39	0.41	0.43	0.13
FOOD AND AGRICULTURAL PROCESSING	0.01	0.00	0.01	0.01	0.01	0.00
SERVICE AND COMMERCIAL	0.19	0.30	0.35	0.41	0.45	0.04
OTHER (FUEL COMBUSTION)	0.07	0.07	0.07	0.07	0.08	0.01
SEWAGE TREATMENT	0.12	0.14	0.15	0.16	0.17	0.02
LANDFILLS	0.16	0.17	0.17	0.18	0.19	0.03
INCINERATORS	0.00	0.01	0.01	0.01	0.01	0.00
OTHER (WASTE DISPOSAL)	0.05	0.05	0.06	0.06	0.06	0.03
DEGREASING	3.41	4.62	5.07	5.69	6.19	4.31
COATINGS AND RELATED PROCESS SOLVENTS	1.79	2.32	2.52	2.76	2.95	1.47
PRINTING	0.03	0.05	0.05	0.06	0.07	0.05
ADHESIVES AND SEALANTS	0.07	0.10	0.11	0.12	0.13	0.10
OTHER (CLEANING AND SURFACE COATINGS)	0.01	0.01	0.01	0.01	0.01	0.01
PETROLEUM MARKETING	5.52	5.45	5.31	5.04	4.73	2.42
CHEMICAL	0.50	0.67	0.73	0.79	0.83	0.00
FOOD AND AGRICULTURE	0.01	0.02	0.02	0.02	0.02	0.01
MINERAL PROCESSES	0.34	0.44	0.47	0.50	0.52	0.09
ELECTRONICS	0.01	0.01	0.01	0.02	0.02	0.02
OTHER (INDUSTRIAL PROCESSES)	0.18	0.16	0.15	0.16	0.17	0.01
CONSUMER PRODUCTS	4.49	4.38	4.47	4.68	4.89	2.22
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	2.45	2.08	2.15	2.26	2.37	1.24
PESTICIDES/FERTILIZERS	0.13	0.20	0.20	0.20	0.20	0.07
ASPHALT PAVING / ROOFING	0.31	0.47	0.52	0.57	0.62	0.11
RESIDENTIAL FUEL COMBUSTION	0.55	0.54	0.54	0.54	0.54	0.03
FARMING OPERATIONS	2.06	2.06	2.06	2.06	2.06	0.23
FIRES	0.02	0.02	0.02	0.02	0.02	0.01
MANAGED BURNING AND DISPOSAL	0.95	0.96	0.96	0.97	0.98	0.87
COOKING	0.45	0.54	0.57	0.61	0.65	0.06
LIGHT DUTY PASSENGER (LDA)	4.34	2.30	1.95	1.65	1.47	0.69
LIGHT DUTY TRUCKS - 1 (LDT1)	1.45	0.71	0.59	0.47	0.38	0.18
LIGHT DUTY TRUCKS - 2 (LDT2)	1.94	1.12	0.94	0.80	0.71	0.24
MEDIUM DUTY TRUCKS (MDV)	1.74	1.33	1.16	0.93	0.78	0.28
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.72	0.54	0.51	0.44	0.39	0.11
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.06	0.04	0.04	0.03	0.02	0.01
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.14	0.05	0.04	0.04	0.03	0.01
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.04	0.01	0.01	0.01	0.01	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.09	0.07	0.07	0.05	0.04	0.01
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.03	0.02	0.02	0.01	0.01	0.00
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	0.09	0.04	0.02	0.01	0.01	0.00
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	1.07	0.21	0.20	0.14	0.16	0.03
MOTORCYCLES (MCY)	1.35	1.12	1.08	1.03	0.98	0.39
HEAVY DUTY DIESEL URBAN BUSES (UB)	0.07	0.04	0.03	0.02	0.02	0.00
HEAVY DUTY GAS URBAN BUSES (UB)	0.04	0.03	0.03	0.02	0.01	0.00
SCHOOL BUSES - GAS (SBG)	0.02	0.00	0.00	0.00	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.02	0.00	0.00	0.00	0.00	0.00
OTHER BUSES - GAS (OBG)	0.02	0.01	0.01	0.01	0.01	0.00
MOTOR HOMES (MH)	0.04	0.01	0.01	0.01	0.00	0.00
AIRCRAFT	1.47	1.47	1.47	1.51	1.56	1.16
TRAINS	1.78	0.90	0.70	0.61	0.49	0.01
RECREATIONAL BOATS	0.27	0.20	0.18	0.15	0.13	0.06
OFF-ROAD RECREATIONAL VEHICLES	0.75	0.65	0.63	0.59	0.57	0.06
OFF-ROAD EQUIPMENT	1.57	1.40	1.38	1.41	1.45	0.78
FARM EQUIPMENT	0.03	0.02	0.02	0.02	0.01	0.00
FUEL STORAGE AND HANDLING	0.35	0.25	0.24	0.22	0.20	0.12
Overall totals:	43.69	38.82	38.49	38.61	38.87	17.76

Table 3: 2026 Forecasted Emission Inventories: NOx

NOx SUB CATEGORY	WMDAB 2012	WMDAB 2018	WMDAB 2020	WMDAB 2023	WMDAB 2026		AVAQMD 2026
ELECTRIC UTILITIES	1.24	0.98	0.98	1.06	1.08		0.000
MANUFACTURING AND INDUSTRIAL	3.87	4.44	4.67	4.72	4.74		5.780
FOOD AND AGRICULTURAL PROCESSING	0.09	0.05	0.06	0.06	0.06		0.066
SERVICE AND COMMERCIAL	1.45	2.15	2.46	2.83	3.09		0.424
OTHER (FUEL COMBUSTION)	0.73	0.79	0.78	0.83	0.87		0.267
LANDFILLS	0.02	0.02	0.03	0.03	0.03		0.024
INCINERATORS	0.06	0.08	0.08	0.09	0.1		0.000
CHEMICAL	0.01	0.01	0.01	0.01	0.01		0.000
MINERAL PROCESSES	17.96	24.38	26.53	28.22	29.33		0.000
METAL PROCESSES	0.48	0.48	0.47	0.51	0.55		0.000
OTHER (INDUSTRIAL PROCESSES)	1.6	1.41	1.32	1.41	1.53		0.085
RESIDENTIAL FUEL COMBUSTION	1.11	0.92	0.91	0.9	0.89		0.198
MANAGED BURNING AND DISPOSAL	0.39	0.39	0.4	0.4	0.4		0.371
LIGHT DUTY PASSENGER (LDA)	3.64	2	1.64	1.28	1.04		0.367
LIGHT DUTY TRUCKS - 1 (LDT1)	1.06	0.47	0.37	0.27	0.19		0.069
LIGHT DUTY TRUCKS - 2 (LDT2)	2.4	1.15	0.88	0.65	0.5		0.135
MEDIUM DUTY TRUCKS (MDV)	2.72	1.6	1.28	0.86	0.61		0.166
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.95	0.63	0.57	0.46	0.37		0.010
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.1	0.07	0.06	0.05	0.04		0.010
MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.22	0.12	0.1	0.08	0.06		0.016
HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.08	0.05	0.05	0.05	0.05		0.016
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	3.82	2.6	2.29	1.75	1.33		0.377
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	1.12	0.68	0.56	0.38	0.25		0.067
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	1.9	1.14	0.83	0.44	0.5		0.259
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	19.6	9.71	8.87	4.41	4.6		0.844
MOTORCYCLES (MCY)	0.46	0.38	0.37	0.36	0.35		0.095
HEAVY DUTY DIESEL URBAN BUSES (UB)	1.1	0.61	0.48	0.35	0.25		0.035
HEAVY DUTY GAS URBAN BUSES (UB)	0.11	0.08	0.07	0.05	0.04		0.003
SCHOOL BUSES - GAS (SBG)	0.02	0.01	0.01	0	0		0.001
SCHOOL BUSES - DIESEL (SBD)	0.26	0.23	0.21	0.17	0.14		0.045
OTHER BUSES - GAS (OBG)	0.06	0.04	0.03	0.02	0.02		0.003
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.05	0.03	0.03	0.01	0.01		0.006
ALL OTHER BUSES - DIESEL (OBD)	0.05	0.03	0.02	0.01	0.01		0.007
MOTOR HOMES (MH)	0.19	0.11	0.09	0.06	0.04		0.008
AIRCRAFT	1.36	1.37	1.37	1.41	1.46		0.892
TRAINS	28.42	22.03	19.41	16.36	12.54		0.372
RECREATIONAL BOATS	0.05	0.04	0.04	0.04	0.04		0.018
OFF-ROAD RECREATIONAL VEHICLES	0.04	0.05	0.05	0.06	0.06		0.004
OFF-ROAD EQUIPMENT	2.16	1.98	1.86	1.54	1.33		0.521
FARM EQUIPMENT	0.12	0.09	0.09	0.07	0.06		0.004
Overall totals:	101.09	83.4	80.29	72.24	68.56		11.56

Mobile sources comprise a significant percentage of the 2026 NOx emissions in the WMDONA. While CARB has unique authority to regulate certain mobile sources by obtaining a waiver from USEPA, a significant portion of mobile source categories such as aircraft, ships, locomotives, and inter-state trucks lie under primarily federal regulatory authority. It is important to note that USEPA is not obligated to evaluate contingency measures for sources under its authority. Furthermore, the dominance of mobile source NOx emissions significantly limits the ability for the AVAQMD to achieve the required amount of NOx reductions from contingency measures.

One Year's Worth of NOx and VOC Reductions

Table 4 lists the One Year's Worth (OYW) of NOx and VOC reductions in the WMDONA with respect to the base year 2012, the RFP base year of the AVAQMD 75 ppb ozone plan. Consistent with the Draft Guidance, OYW of NOx and VOC reductions are calculated to be 1.5 tpd and 0.38 tpd, respectively. The infeasibility justification to support the scarcity of available contingency measures achieving OYW of progress.

Table 4 – OYW of NOx and VOC summer planning emissions reductions for the WMDONA (tpd)

Emission Inventory	NOx (tpd)	VOC (tpd)
2012 Summer	98.9	46.8
2026 Summer	68.7	40.7
OYW of Progress	1.50	0.38

Contingency Measures – Infeasibility Justification

This section contains evaluation of primary VOC and NOx source categories in the WMD and associated control measures. In order to identify relevant source categories for this evaluation, AVAQMD staff examined the stationary source categories identified in the emissions inventory for the WMD.

Methodology

The AVAQMD followed the procedures outlined in the Draft Guidance for the preparation of a contingency measure and a reasoned justification for providing contingency measures achieving less than the required amount of reductions. These procedures, which involve the identification of existing and potential controls and evaluation of the feasibility of such controls, are outlined below:

Step 1. Thoroughly examine the emission sources in the WMDONA and identify applicable rules.

Step 2. Compare existing source control measures (i.e. rule requirements) with those in other jurisdictions and identify potential control measures.

Step 3. Review each of the measures identified in Step 2 to determine whether it is feasible to implement within up to two years as a contingency measure. If feasible, include the measure in the contingency measure submission.

Step 4. For the remaining infeasible measures from Step 3, document the reason why each measure is infeasible as a contingency measure, including whether the conclusion is based on technological, economic, or other infeasibility considerations

Section 3 - Identifying Potential Contingency Measures by Source Category

The District has assessed the non-mobile sources of VOC and NOx in the WMDONA emissions inventory (Tables 5 and 13 below). Contingency measures for source categories that would not generate 1% of OYW of RFP (0.015 tpd) due to a lack of available reductions were not analyzed as any measures for those sources would be unquestionably negligible and fail to meet the requirements of the Draft Guidance.

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Table 5 - 2026 NOx Non-Mobile Source Categories[5]

Western Mojave Desert – Antelope Valley Top NOx Emission Sources and SIP Approved Rules				
Source Category (EIC)	Subcategory	Sub-Subcategory	2026 NOX Emissions (tpd)	% of total NOX
MANUFACTURING AND INDUSTRIAL (COMBINED SOURCE CATEGORY)	BOILER AND PROCESS HEATERS, IC ENGINES and OTHER	NATURAL GAS	5.78	50%

*Combined source categories comprise all closely related sources within an emission inventory category

WMDONA Top NOx Emission Sources and SIP Approved Rules				
Source Category (EIC)	Subcategory (EICSOU)	Sub-Subcategory (EICMAT)	2026 NOX Emissions (tpd)	% of total NOX
MINERAL PROCESSES	OTHER	MINERAL AND METAL PRODUCTS (UNSPECIFIED)	21.2008	30.93%
MINERAL PROCESSES	CEMENT (PORTLAND AND OTHERS) MANUFACTURING	CEMENT	5.6815	8.29%

[5] EPA-R09-OAR-2020-0254

Combined Source Categories*	I.C. RECIPROCATING ENGINES	COMBINED	4.3983	6.42%
MANUFACTURING AND INDUSTRIAL	OTHER	NATURAL GAS	2.638	3.85%
MINERAL PROCESSES	CEMENT (PORTLAND AND OTHERS) MANUFACTURING	COAL	2.2252	3.25%
OTHER (INDUSTRIAL PROCESSES)	OTHER	HYDROCARBON COMPOUNDS (UNSPECIFIED)	1.4154	2.06%
Combined Source Categories*	I.C. TURBINE ENGINES	COMBINED	1.3447	1.96%
SERVICE AND COMMERCIAL	OTHER	NATURAL GAS	1.2263	1.79%
Combined Source Categories*	BOILER AND PROCESS HEATERS	COMBINED	0.7984	1.16%

Mineral Processes

Although Mineral Processes do not exist in the AVAQMD, this top emission category is present in MDAQMD, which is part of the WMDONA, and was evaluated per MDAQMD's Rules and Regulations.

Background:

The largest individual stationary sources of NOx in the WMDONA are three cement facilities, the Cemex Black Mountain Quarry Plant in Apple Valley, the Mitsubishi Cement Plant in Lucerne Valley, and the CalPortland Cement Plant in Oro Grande. These facilities are all located in the MDAQMD portion of WMD, and the emissions from each are controlled by Rule 1161. In Table 6, emissions from these facilities are spread across two subcategories, covering, respectively, cement manufacturing and other mineral processes. In 2018, the EPA conditionally approved the District's RACT SIP based on the District's commitment to revise and resubmit several rules, including Rule 1161, for inclusion in the SIP.[6] In response to the conditional approval, MDAQMD adopted a revised Rule 1161 that CARB submitted for incorporation into the California SIP on May 18, 2018. Relative to the previous SIP-approved version of Rule 1161, the revised rule reduced NOx limits to 2.8 pounds of NOx per ton of clinker[7] produced for preheater-precalciner kilns and 3.4 pounds of NOx per ton of clinker produced for Portland cement kilns operating with more than 15 percent heat input from any combination of low carbon fuels.[8] However, the District's staff report indicated that the rule would not result in actual emissions reductions, because the cement kilns in WMD already meet the reduced emission limits.[9] More recently, USEPA proposed to fully approve the revised version of 1161 for inclusion in to the SIP. These limits are also the basis for the limits used in EPA's Good Neighbor FIP for Cement Kilns.

Evaluation:
The MDAQMD compared rule 1161 to EKAPCD (Table 6), a severe ozone nonattainment area. The MDAQMD Rule sets equivalent emissions limits with an added requirement for RACT level controls such a low NOx burners or NOx reducing Fuels.

Conclusion:
In conclusion, MD Rule 1161 as stringent or more stringent as other comparable District rules, and available Contingency Measures identified such as lowering NOx limits would require extensive testing and implementation time. No additional measures were identified for Kilns.

[6] Approval of California Air Plan Revisions, MDAQMD, 83 FR 5921 (February 12, 2018)
[7] Clinker is a nodular material produced in the kilning stage during the production of cement. It is ground to a powder and used as the binder in many cement products.
[8] Based on a 30-day average. Separate limits apply to start-up and shut-down. Additionally, the rule offers an alternative emissions control that includes an aggregate minimum 90% reduction in NO_x emissions from all kilns.
[9] Final Staff Report, Amendments to Rule 1161 – *Portland Cement Kilns*, MDAQMD, Amended on January 22, 2018.

Table 6: Comparison of MDAQMD Rule 1161 - Portland Cement Kilns			
Rule	Applicability	Requirements	
MD 1161 - Portland Cement Kilns	all existing Portland Cement Kilns Operated within the Federal Ozone Non-Attainment Area of the Mojave Desert Air Quality Management District.	Each Owner or Operator of a Kiln subject to this Rule shall Operate such Equipment with NOx RACT. RACT shall be specific to the type of Kiln being Operated, and can include - but is not limited to - any one, or a combination of, the following: (i) Combustion Controls (ii) Low NOx burners (iii) Staged combustion (iv) NOx-reducing fuels or substances (includes tire-derived fuels).	(i) For Preheater-Precalciner Kilns: 2.8 lb/ton of Clinker produced when averaged over any 30 consecutive day period; or, (ii) For a Portland Cement Kiln operating with over fifteen (15) percent of Heat Input from any combination of Low-Carbon Fuels: 3.4 lb/ton of Clinker produced when averaged over any 30 consecutive day period.
EKAPCD 425.3 - Portland Cement Kilns (Oxides of Nitrogen)	Provisions of this Rule shall apply to all Portland cement manufacturing facilities operating in the Eastern Kern Air Pollution Control District (District)	Effective March 8, 2018, No person shall operate a Portland cement manufacturing facility unless 30-operating day rolling average of NOx emissions from the kiln do not exceed: 1. 2.8 lb/ton of clinker produced; or 2. 3.4 lb/ton of clinker produced if low-NOx burner or low-NOx precalciner was installed and made operational by January 1, 2007.	

Manufacturing and Industrial Fuel Combustion (Various)

Clean Fuels

The advancement of cleaner burning fuels plays an important role in reducing emissions from motor vehicles and engines in these source categories. CARB has adopted standards to ensure that the fuels sold in California are the cleanest in the nation. These programs include the California Reformulated Gasoline program (CaRFG), which controls emissions from gasoline, and the Ultra-Low Sulfur Diesel requirements (2006), which provide the nation's cleanest diesel fuel specifications and help to ensure that diesel fuels burn as cleanly as possible and work synergistically with cleaner-operating heavy-duty trucks equipped with advanced emission control systems that debuted in 2007, and the Low Carbon Fuel Standard. These fuel standards, in combination with engine technology requirements, ensure that California's transportation system achieves the most effective emission reductions possible.

Taken together, California's emission standards, fuel specifications, and incentive programs for other mobile sources and fuels represent all measures that are technologically and economically feasible within California. There are no available contingency measures that would result in OYW of reductions.

The analysis of fuel combustion equipment was grouped into four categories: (1) boilers, stream generators, and process heaters; engines; combustion turbines; and (4) residential fuel combustion. Each source group is analyzed below.

Boilers and Process Heaters

Background: Boilers and Process Heaters

Manufacturing and industrial operations combust various types of fuel (primarily natural gas) in a variety of ways, including space heating or for use in boilers and burners for specific processes. These operations are combined into this category. Within the WMDONA, the AVAQMD regulates boilers and process heaters equal to or greater than 5 MMBTU, through AVAQMD Rule 1146 and boilers and process heaters greater than 2 mmbtu and less than 5 mmbtu AVAQMD Rule 1146.1. Upon amendment of Rule 1146, emissions of these larger boilers and process heaters would be reduced by 25%, from 40 to 30 ppb.[10] .

Evaluation:

A comparison with rules from similar attainment designations for Ozone also showed that Rule 1146 is comparable to other District rules (Table 7 below). When comparing to measures/rules which implement Best Available Control Technology (BACT) from extreme ozone nonattainment areas such as SCAQMD, AV Rule 1146 is less stringent in terms of applicability thresholds as SCAQMD has separate rules for Boilers and Process Heaters greater than 5 MMBtu/hr rated input capacity, greater than 2 MMBtu/hr but less than 5 MMBtu/hr rated heat input capacity, and less than 2 MMBtu/hr rated input capacity.

Conclusions:

Implementation timeline is an additional consideration regarding the feasibility lowering NOx limits for this source category. Achieving lower limits would potentially require single stage Selective Catalytic Reduction (SCR), two stage SCR systems, or next generation ultra-low NOx Burners (ULNB) combined with SCR. Staff considered several potential measures such as lower NOx limits using ULNB and SCR, but these were not suitable contingency measures considering that it would be technologically infeasible to design, install and operate advanced emission control technology within two years of the triggering event. A contingency measure that will not result in emission reductions until more than two years in the future would not satisfy the criteria of contingency measures as defined in the Draft Guidance. The District also evaluated the adopting of a boiler rule for new boilers with a heat input rating of 75,000 BTU to 2 MMBTU as a potential contingency measure, however emissions reductions for this category would take 5-10 years as older units are replaced and would still not achieve OYW of reductions.

[10] Letter dated May 18, 2018, from Richard Corey, CARB, to Alexis Strauss, EPA Region IX

Table 7: Comparison of AVAQMD Rule 1146 – *Boilers, Steam Generators, & Process Heaters*

Rule	AV 1146 - Boilers, Steam Generators, & Process Heaters	EKAPCD Rule 425.2 - Boilers, Steam Generators, and Process Heaters (Oxides of Nitrogen)	MD 1157 - Boilers and Process Heaters
Applicability	This rule applies to boilers, steam generators, and process heaters of equal to or greater than 5 million Btu per hour rated heat input capacity used in all industrial, institutional, and commercial operations with the exception of: (1) boilers used by electric utilities to generate electricity; and (2) boilers and process heaters with a rated heat input capacity greater than 40 million Btu per hour that are used in petroleum refineries; and (3) sulfur plant reaction boilers.	any boiler, steam generator or process heater operating in the Eastern Kern Air Pollution Control District (District) with rated heat input of 5 million Btu per hour or more and fired with gaseous and/or liquid fuels. An owner/operator of any unit subject to this Rule with annual heat input of 90,000 therms or more during one or more of the three preceding years of operation shall comply with following applicable NOx emission limit(s): 1. 30 parts per million by volume (ppmv) or 0.036 pound per million Btu of heat input when operated on gaseous fuel. 2. 40 parts per million by volume (ppmv) or 0.052 pound per million Btu of heat input when operated on liquid fuel. 3. The heat-input weighted averaged of the limits specified in Section V.A.1 and V.A.2 above when operated on combination of gaseous and liquid fuel.	This rule applies to boilers, steam generators, and process heaters of equal to or greater than 5 million Btu per hour rated heat input capacity used in all industrial, institutional, and commercial operations with the exception of: (1) boilers used by electric utilities to generate electricity; and (2) boilers and process heaters with a rated heat input capacity greater than 40 million Btu per hour that are used in petroleum refineries; and (3) sulfur plant reaction boilers.
Requirements	The owner or operator of any unit(s) shall not discharge into the atmosphere oxides of nitrogen, expressed as nitrogen dioxide (NO2), in excess of the concentrations shown in the following: Gaseous, Liquid, or Solid Fossil Fuels Equal to or greater than 5 million Btu per hour and Greater than 9 x 109 Btu p%r yr (90,000 Therms) fuel use - 40 ppm (0.05 lb per106 Btu of heat input)	An owner/operator of any unit subject to this Rule with annual heat input of 90,000 therms or more during one or more of the three preceding years of operation shall comply with following applicable NOx emission limit(s): 1. 30 parts per million by volume (ppmv) or 0.036 pound per million Btu of heat	RACT Standards: (a) High Annual Heat Input permit units, shall not emit: (i) CO in excess of 400 ppmv; and (ii) NOx in excess of 30 ppmv, and/or 0.036 lbs/MMBtu of heat input, when operated on Gaseous Fuel; and (iii) NOx in excess of 40 ppmv, and/or 0.052 lbs/MMBtu of heat input, when operated on Liquid Fuels; and (iv) NOx in excess of the heat-input weighted average of the limits specified in (C)(3)(a)(ii) and (C)(3)(a)(iii), above, when operated on combinations of Gaseous and/or Liquid Fuels. (b) Low Annual Heat Input permit units shall: (i)

	Equal to or greater than 40 million Btu per hour and Greater than 25% annual capacity factor - 30 ppm Equal to or greater than 40 million Btu per hour and Equal to or 25% annual capacity less than factor and greater than 9 x 109 Btu (90,000 Therms) per year fuel use - 40 ppm **Carbon monoxide (CO)** emissions from unit(s) subject to this subparagraph shall not exceed 400 ppm.	input when operated on gaseous fuel. 2. 40 parts per million by volume (ppmv) or 0.052 pound per million Btu of heat input when operated on liquid fuel. 3. The heat-input weighted averaged of the limits specified in Section V.A.1 and V.A.2 above when operated on combination of gaseous and liquid fuel.	be operated in a manner that maintains stack-gas oxygen (O2) concentrations at less than or equal to 3.0 percent by volume on a dry basis; or (ii) be operated with a stack-gas oxygen trim system set at 3.00±0.15 percent oxygen by volume on a dry basis; or (iii) be tuned at least annually in accordance with the procedure described in Section (I), a modification of the tuning procedure described in Section (I) as approved by the APCO, CARB and USEPA, or the permit unit manufacturer's specified tune-up procedure; or (iv) be operated in compliance with the applicable emission levels specified in subsection (C)(3)(a).

Stationary I.C. Reciprocating Engines

Background:
Stationary reciprocating internal combustion engines are non-mobile piston engines that run on gaseous or liquid fuels. Though their use varies widely, examples of such engines can be found on compressors or rock crushers, or more typically used for emergency power systems critical to human life (i.e. emergency standby engines). In the AVAQMD portion of the WMDONA, NOx emissions from these engines are regulated by AVAQMD Rule 1110.2 – *Emissions from Stationary, Non-Road and Portable Internal Combustion Engines*.

AVAQMD Rule 1110.2 was updated in 2018 following a RACT SIP analysis for the 2008 ozone standard. This rule amendment was approved into the SIP by USEPA on September 10, 2021, 86 FR 50645

Evaluation:
The limits in AV 1110.2 were compared to EKAPCD an MDAQMD requirements in Table 8 for this source category. In general, AVAQMD is comparable, as both have equivalent applicability and higher NOx limits, however AVAQMD Rule 1110.2 also provides VOC limitations not found in EKAPCD Rule 427. When comparing to measures/rules which implement Best Available Control Technology (BACT) found in an extreme ozone nonattainment area such as SCAQMD Rule 1110.2, AVAQMD Rule 1110.2 contains less stringent limits for both NOx and VOC.

Conclusion:
There are no Contingency Measures identified that could be implemented within the 60-day trigger timeline. Implementation of BACT level NOx and VOC limits on all stationary engines would take much longer than 60 days from the triggering event. Comparison with comparable District Rules EKAPCD and MDAQMD shows that AVAQMD Rule 1110.2 is comparable to other severe nonattainment areas. Although lower limits of NOx could potentially be achieved by installing SCR, installing SCR and achieving reductions within two years of triggering would be technically and practically infeasible. Contingency measures should be measures that would result in the projected emission reductions within a year after the triggering event, or up to within two years with proper justification. A contingency measure that will not result in emission reductions until further in the future would not satisfy the criteria of contingency measures as defined in the Draft Guidance.

Table 8: Comparison of AVAQMD Rule 1110.2 – *Internal Combustion Engines*

Rule	Applicability	NOx Limits	VOC Limits
AVAQMD - Rule 1110.2 - Emissions from Stationary, Non-Road and Portable Internal Combustion Engines	This rule is applicable to all Internal Combustion Engine(s) over 50 bhp	General Engine Emission Limits for the owner/operator of any Stationary Engine subject to this rule shall ensure the emissions from such engine do not exceed - 36 ppm	250 ppm
MDAQMD - Rule 1160 - Internal Combustion Engines	This rule applies to any stationary Internal Combustion Engine rated at 50 or more brake horsepower (bhp), when located within the Federal Ozone Nonattainment Area.	Spark-Ignited Internal Combustion Engine, Rich Burn: 50 ppmv	Spark-Ignited Internal Combustion Engine, Rich Burn: 106 ppmv;
		Spark-Ignited Internal Combustion Engine, Lean Burn: 125 ppmv	Spark-Ignited Internal Combustion Engine, Lean Burn: 106 ppmv;
		Compression-Ignited Internal Combustion Engine 80 ppmv	Compression-Ignited Internal Combustion Engine: 106 ppmv.
EKAPCD Rule 427 -- Stationary Piston Engines (Oxides of Nitrogen)	This Rule shall apply, as specified, to all rich-burn, lean-burn, and diesel engines of more than 50 rated brake horsepower.	Rich-Burn Engine: 1. Exhaust gas oxides of nitrogen concentration, averaged over not less than 15 consecutive minutes: a. Shall be reduced by 90 percent across any exhaust gas control device; or b. Shall not exceed 50 ppm by volume, on dry basis, corrected to 15 percent oxygen. .	No VOC limits list in EKAPCD Rule 427
		Lean-Burn Engine: 1. Exhaust gas oxides of nitrogen concentration, averaged over not less than 15 consecutive minutes: a. Shall be reduced by at least 80 percent across any exhaust gas control device; or b. Shall not exceed 125 ppm by volume, on dry basis, corrected to 15 percent oxygen; or 2. For lean burn engines controlled exclusively by combustion modifications, exhaust gas oxides of nitrogen emission rate shall not exceed 2.0 grams per brake horsepower hour of output, or	

		where engine has no means to measure shaft output, exhaust gas oxides of nitrogen concentration, averaged over not less than 15 consecutive minutes, shall not exceed 125 ppm by volume, on dry basis, corrected to 15 percent oxygen.	
		Diesel Engine: Exhaust gas oxides of nitrogen concentration, averaged over not less than 15 consecutive minutes: 1. Shall be reduced by at least 30 percent across any exhaust gas control device; or 2. Shall not exceed 600 ppm by volume, on dry basis, corrected to 15 percent oxygen.	

Stationary Gas Turbines

Background:
Emissions from combustion turbines are regulated by AVAQMD Rule 1134. Rule 1134 was last amended on 01/19/10. USEPA determined that Rule 1134 implements RACT for units in the current federal ozone nonattainment area (FONA) (01/18/2012, 77 FR 2469). This rule applies to any new or existing Stationary Gas Turbine of 0.3 megawatt (MW) and larger unless the equipment is exempt from this rule pursuant to Section (D) of this rule. The rule has varied emission limits for NOx and CO based on fuel type.

Evaluation:
Additional control of NOx from combustion turbines can be accomplished using combustion controls, such as water or steam injection dry low NOx (DLN) and ULNB, or post-combustion controls, including SCR.40 DLN combustors can achieve between 9 ppm and 25 ppm in gas turbines operating with natural gas and between 10 ppm and 27.5 ppm in gas turbines operating on refinery gas. SCR can achieve about 95 percent NOx reduction in both types of gas turbines. It is common for multiple control technologies to be applied (e.g., DLN + SCR + oxidation catalyst). Combination of DLN and SCR can achieve 2 ppm NOx with proper engineering and design.

Conclusion:
Lowering regulatory limits as a contingency measure would not be appropriate as affected sources would need to design and install advanced emission control technology such as SCR. This feasibility consideration is discussed in further detail in the evaluation section for boilers, steam generators, and process heaters. No contingency measures are proposed for combustion turbines, as implementing potential measures within 2 years is not feasible.

Residential Fuel Combustion – Water Heating

Background:
Water heating is source of residential fuel combustion. Cold water is typically brought into a special tank affixed typically with a natural gas burner. As the burner combusts, NOx emissions rise out of the tank through an internal vent and is eventually emitted outside of the home. The AVAQMD has placed Rule 1121 *Control of Nitrogen Oxides from Residential Type, Natural Gas Fired Water Heaters* on the Rule Development list for 2023.

Evaluation:
Upon amendment, AVAQMD Rule 1121 will include limits comparable to the stringency of South Coast AQMD Rule 1121 and MDAQMD Rule 1121, even though the AVAQMD is not classified as an extreme non-attainment zone. Due to the urgent need to achieve emission reductions to attain ozone NAAQS, it would be impractical to withhold the zero emission limits to satisfy contingency measure obligations - these emission reductions are needed for attainment purposes. According to USEPA's Draft Guidance and recent case laws, a control measure relied upon for attainment purposes cannot serve as a contingency measure. In addition, CARB has committed to adopt the Zero-Emission Standard for space and water heaters control measure with implementation beginning in 2030.[11]

Conclusion:
The only potential contingency measure that would be surplus to those efforts would be to require replacement of existing units before the end of their useful life or Require that, at replacement, natural gas and propane water or space heaters be replaced with units that run on electricity. Staff does not consider this to be feasible, especially due to the undue burden it would place on disadvantaged communities. Time to design, manufacture, and install these units must also be considered. Therefore, staff has not identified any feasible controls to propose as contingency measures for this source category.

Small NOx sources (<1% Total NOx Inventory)

Less significant sources of NOx are listed below. These are source that comprise less than 1% of the total NOx in the WMDONA but may have enough available emissions to achieve the 1% of OYW of RFP (0.015 tpd NOx) threshold for CM evaluation.

Table 9: WMDONA NOx Sources above 1% of OYW threshold

670-MANAGED BURNING AND DISPOSAL	0262-AGRICULTURAL WASTE	NOX	SUMMER	0.2375	0.35%
130-INCINERATORS	0110-NATURAL GAS	NOX	SUMMER	0.093	0.14%
870-FARM EQUIPMENT	1210-DIESEL (UNSPECIFIED)	NOX	SUMMER	0.0753	0.11%
120-LANDFILLS	0136-WASTE GAS	NOX	SUMMER	0.0246	0.04%

[11] https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf

AVAQMD NOx Sources above 1% of OYW threshold					
060 - SERVICE AND COMMERCIAL	0110 – NATURAL GAS	NOX	SUMMER	0.4235	0.61%
120 - LANDFILLS	0136 - WASTE GAS	NOX	SUMMER	0.0246	0.04%

Managed Burning and Disposal – Agricultural Waste

Although Agricultural burning does not happen in the AVAQMD, this emission category is present in MDAQMD, nd has been evaluated, as it is part of the WMDONA, based on MDAQMD Rules and Regulations.

Background:
Agricultural burning involves open burning of vegetative materials produced from growing and harvesting of crops. This source category comprises 0.35% of the WMDONA NOx inventory. It includes the burning of grass and weeds in fence rows, ditch banks and berms in no-till orchard operations, the burning of fields being prepared for cultivation, the burning of agricultural wastes, and the operation or maintenance of a system for the delivery of water for agricultural operations. In the MDAQMD, this agricultural waste burning is regulated by MDAQMD Rule 444 - *Open Outdoor Fires* (9/25/2006). Rule 444 applies to persons that set and/or permit Open Outdoor Fires, including, but not limited to tumbleweed burning, agricultural burning, field crop burning, range improvement burning, forest management burning, and wildland vegetation management burning.

Evaluation:
Staff identified more stringent requirements in other District rules such as SJVAPCD's near complete prohibition of agricultural burning by 2025. Agricultural burning is extremely limited in the MDAQMD as evidenced by the very small emissions inventory. The limited extent of agricultural burning in the MDAQMD combined with the high cost and implementation time of alternatives such as electrical or combustion powered grinders/chippers indicates that this measure is infeasible and would have an inconsequential impact on air quality.

Conclusion:
There are no potential contingency measures for this source category that could take place within 60 days of a triggering event and result in significant emission reductions within a 2-year time frame. The district evaluated a seasonal open burning ban. However, this would not generate sufficient emissions reductions to meet the CM criteria and would generate the reductions outside the ozone season, as most tumbleweed burning is in the spring, winter and fall.

Table 10: Comparison of MDAQMD Rule 444 – Open Outdoor Fires

Rule	Applicability	Requirements
VCAPCD Rule 56 “Open Burning” (11/11/2003)	Combustible materials in open outdoor fires	No specific crop phase-outs or bans; Permit required for open burning; Burning only allowed on permissive burn days; Open burning allowed for the disposal of agricultural wastes in the pursuit of agricultural operations, range improvement burning, wildland vegetation management burning, levee, reservoir, or ditch maintenance and the disposal of Russian Thistle
MDAQMD Rule 444 - Open Outdoor Fires (9/25/2006)	Any persons that set and/or permit Open Outdoor Fires, including, but not limited to Tumbleweed burning, Agricultural Burning, field crop burning, Range Improvement Burning, Forest Management Burning, and Wildland Vegetation Management Burning.	No burning of garbage or other materials; Smoke management Plans for burn projects greater than 10 acres; Permit required for open burning; Burning only allowed on permissive burn days; Open burning allowed for the disposal of agricultural wastes in the pursuit of agricultural operations, range improvement burning, wildland vegetation management burning, levee, reservoir, or ditch maintenance and the disposal of Russian Thistle

SJVAPCD Rule 4103 – Open Burning	Open burning conducted in the San Joaquin Valley Air Basin, except for prescribed burning and hazard reduction burning (regulated under District Rule 4106)	No burning of garbage or other materials; Burning shall be allocated by the APCO dependent on dispersion conditions and shall avoid negative impacts to receptors; No permit shall be issued for the burning of the field crops, prunings, weed abatement, orchard removals, vineyard removals, surface harvested prunings and other materials, except for crops covered by section 5.5.2; Additional requirements for burning times, drying times, contraband burning; Permit required for burning of Russian Thistle; Conditional burning permit required for diseased materials with specific requirements; Burn plans required for fire suppression training; burning of contraband Burn plans required for fire suppression training, burning of contraband; BMP selection required for weed maintenance.

Incinerators

Background:
Incinerators in the WMDONA are primarily used at crematoriums and are fueled by natural gas. This source category will make up 0.093 tpd of the 2026 modeled emissions inventory. While the AVAQMD does not have a source specific rule for incinerators, the AVAQMD does restrict emissions by permit. These permits regulate crematoriums through limitations such as total quantity of material introduced, fuel type, and amount of time in operation annually.

Evaluation:
The District requires TBACT on most, the units have combustion controls to ensure remains are completely combusted, however the controls are not NOx controls. Similar in concept to BACT, T-BACT requirements ensure that new or modified sources that emit toxic air contaminants are well controlled. The AVAQMD evaluated other District rules such as Placer County Air Pollution Control District (PCAPCD) Rule 241 - *Crematories*. However, PCAPCD Rule 241 does not contain NOx emissions limits and limits in the rule focus on opacity of stack emissions. SCAQMD does not have a crematorium or incinerator-specific rule.

Conclusion:

Staff evaluated contingency measures such as installing low NOx or Ultra Low NOx units, however such measures would be infeasible due to the lack available retrofit controls for these types of incinerators. Additionally, the category is already borderline for qualifying as 1% of OYW and additional controls would not meet OYW of RFP.

Agricultural Equipment

Agricultural Equipment emissions are negligible in the AVAQMD and are subject to AVAQMD Rule 1110.2. MDAQMD, which is part of the WMDONA, has evaluated Agricultural Equipment which is regulated by MDAQMD 1160.1.

Background:
Farm equipment makes up 0.11% of the forecasted MDAQMD NOx emissions inventory and is primarily regulated by MDAMD Rule 1160.1. MDAQMD Rule 1160.1 applies to any Internal Combustion Engine used in an Agricultural Operation with a Rated Brake Horsepower of fifty (50) or more. Rule 1160.1 was adopted in 2012 in order to satisfy the requirements of SB 700 and H&S Code §39614(d) and is primarily based off of San Joaquin Valley APCD Rule 470 – *Internal Combustion Engines – phase 2*, as amended on January 18, 2007.

Evaluation:
Rule 1160.1 does not increase stringency beyond existing state law (ATCM) for compression-ignited agricultural engines (which was adopted in 2004 by the state). The majority of this rule was derived from San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) Rule 4702, which has been determined to implement Best Available Control Measures/Best Available Control Technology (BACM/BACT) (TSD, August 2007, SIP approved 73 FR 1819, 01/10/2008). In general, SJVAPCD Rule 4702 contains more stringent requirements with a minimum of 90% NOx reduction compared to MDAQMD 1160.2, which only sets an 80% reduction requirement. CO and VOC limits in these rules are identical despite SVJAPCD's higher ozone nonattainment designation.

Conclusion:
The District evaluated contingency measures such as lowering NOx limits in MDAQMD Rule 1160.1, however such measures would require significantly longer than 60 days after a CM trigger to be implemented and fails to meet the OYW of RFP required due to the minimal amount of emissions from this source category.

Table 11: Rule Comparison - *Internal Combustion Engines in Agricultural Operations*

Rule	Engine type	NOx Limits	CO	VOC
MDAQMD Rule 1160.1 - *Internal Combustion Engines in Agricultural Operations* (01/23/12)	Rich Burn	90 ppmv or 80% reduction	2000 ppmv	250 ppmv
	Lean Burn	150 ppmv or 70% reduction	2000 ppmv	750 ppmv
SJVAPCD Rule 4702 - *INTERNAL COMBUSTION ENGINES* (8/19/2021)	Rich Burn			
	Waste gas fueled (≥ 50% total heat monthly input from waste gas based on hhv) 90% reduction 2000 ppmv 250 ppmv	90% reduction	2000 ppmv	250 ppmv
	Cyclic loaded, field gas fueled	50 ppmv	2000 ppmv	250 ppmv
	All other engines	25 ppmv or 96% reduction		
	Lean Burn			
	Two stroke, gaseous fueled, less than 100 horsepower	75 ppmv or 85% reduction	2000 ppmv	750 ppmv
	All other engines	65 ppmv or 90% reduction	2000 ppmv	750 ppmv

Landfills - Flares

Background:

Landfill gas (LFG) is a natural byproduct of the decomposition of organic material in landfills. LFG is extracted from landfills using a series of wells and a blower/flare (or vacuum) system. This system directs the collected gas to a central point where it can be processed and treated depending upon the ultimate use for the gas. From this point, the gas can be flared or beneficially used in an LFG energy project. In the AVAQMD, Landfill Flaring makes up 0.21% of the 2026 forecasted NOx inventory. Municipal Solid Waste (MSW) landfills are subject to AVAQMD Rule 1150.1 – *Control of Gaseous Emissions from Active Landfills* as well as California's Landfill Methane Regulation (LMR). AVAQMD Rule 1150.1 implements the provisions of 40

Code of Federal Regulations (CFR) Part 60, Subpart Cf - *Emission Guidelines and Compliance Times for MSW Landfills*.

Evaluation:
Both AVAQMD Rule 1150.1 and California's Landfill Methane Regulation (LMR) require municipal solid waste landfills to reduce methane and other air pollutant emissions through emissions monitoring and through capturing fugitive methane. The State LMR has more stringent provisions than the federal requirements[12], as well as specific requirements for both enclosed and open landfill flares.

Conclusions:
The District did not identify any contingency measures for landfill flaring which could be implemented within the 60-day timeframe. Furthermore, additional measures would fall well short of the OYW of RFP required.

VOC

In general, as air masses travel downwind from major emissions source areas, entrainment of fresh emissions, atmospheric reactions, depositional processes, and dilution increase the ROG:NOX ratio. As a result, ozone formation in downwind suburban and rural areas is typically regarded as "NOX-limited," which means that ozone formation is limited by available NOx emissions such that reductions in NOx emissions will reduce ozone concentrations. Consistent with this dynamic, because the West Mojave Desert is located downwind of the San Joaquin Valley and SCAB extreme ozone nonattainment areas, the area is expected to be NOx-limited.[13]

Despite this fact, the District has also analyzed the major VOC sources with the potential to achieve 1% of OYW of RFP.:

Table 12 – 2026 Top (>1%) VOC Non-Mobile Source Categories

AVAQMD portion of West Mojave Desert 2026 VOC Emissions Sources		
Source Category (EIC)	2026 VOC Emissions	Percent of Total VOC
220-DEGREASING	4.3101	31.68%
330-PETROLEUM MARKETING	2.4246	17.82%
510-CONSUMER PRODUCTS	2.2175	16.30%
230-COATINGS AND RELATED PROCESS SOLVENTS	1.4685	10.80%
520-ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	1.2433	9.14%

[12] EPA-R09-OAR-2019-0393-0003
[13] EPA-R09-OAR-2020-0254

West Mojave Desert 2026 VOC Emission Sources				
Source Category (EIC)	Subcategory (EICSOU)	Sub-Subcategory (EICMAT)	2026 VOC Emissions	Percentage of total VOC
220-DEGREASING	204-COLD CLEANING (BATCH - CONVEYOR - SPRAY GUN)	8106-DEGREASING SOLVENTS - BLENDS (UNSPECIFIED)	4.5615	11.27%
510-CONSUMER PRODUCTS	506-CONSUMER PRODUCTS	Combined	4.5409	11.22%
330-PETROLEUM MARKETING	390-TANK CARS AND TRUCKS - WORKING LOSSES	1100-GASOLINE (UNSPECIFIED)	3.6158	8.93%
520-ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	522-THINNING AND CLEANUP SOLVENTS	8350-CLEANUP SOLVENTS - COATINGS (UNSPECIFIED)	2.6984	6.67%
620-FARMING OPERATIONS	618-LIVESTOCK HUSBANDRY	0262-AGRICULTURAL WASTE	2.0636	5.10%
220-DEGREASING	208-HANDWIPING	8106-DEGREASING SOLVENTS - BLENDS (UNSPECIFIED)	1.6041	3.96%
230-COATINGS AND RELATED PROCESS SOLVENTS	995-OTHER	9200-WATER BASED COATINGS (UNSPECIFIED)	1.2118	2.99%
330-PETROLEUM MARKETING	318-NATURAL GAS TRANSMISSION LOSSES	0110-NATURAL GAS	0.8021	1.98%
099-OTHER (FUEL COMBUSTION)	040-I.C. RECIPROCATING ENGINES	1200-DIESEL/DISTILLATE OIL (UNSPECIFIED)	0.6744	1.67%
670-MANAGED BURNING AND DISPOSAL	662-AGRICULTURAL BURNING - FIELD CROPS	0262-AGRICULTURAL WASTE	0.5777	1.43%
230-COATINGS AND RELATED PROCESS SOLVENTS	218-AUTO REFINISHING	9100-OIL BASED (ORGANIC SOLVENT BASED) COATINGS (UNSPECIFIED)	0.5157	1.27%
690-COOKING	680-COMMERCIAL CHARBROILING	6000-FOOD AND AGRICULTURAL PRODUCTS (UNSPECIFIED)	0.481	1.19%
230-COATINGS AND RELATED PROCESS SOLVENTS	232-WOOD FURNITURE AND FABRICATED PRODUCTS COATINGS	9000-COATINGS (UNSPECIFIED)	0.4231	1.05%
230-COATINGS AND RELATED PROCESS SOLVENTS	238-AIRCRAFT AND AEROSPACE COATINGS	9100-OIL BASED (ORGANIC SOLVENT BASED) COATINGS (UNSPECIFIED)	0.4082	1.01%
410-CHEMICAL	403-FIBERGLASS AND FIBERGLASS PRODUCTS MANUFACTURING	5018-FIBERGLASS	0.392	0.97%

Consumer Products

Background:
Consumer products are defined as chemically formulated products used by household and institutional consumers. The category will comprise almost 11% of the total emissions inventory for VOC in 2026. For thirty years, CARB has taken actions pertaining to the regulation of consumer products. Three regulations have set VOC limits for over 100 consumer product categories. These regulations have been amended frequently, and progressively stringent VOC limits and reactivity limits have been established. The program's most recent rulemaking occurred in 2020.

Conclusions:
To provide reductions qualifying for contingency purposes, the 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. 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. An in-depth analysis on the potential CARB contingency measures surrounding consumer products in Appendix B.

Petroleum Marketing Tank Cars and Trucks - Working Losses

Background:
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 national ambient air quality standards (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. Fuel dispensing, storage and distribution has been regulated by capturing VOC vapors displaced by the filling of vehicle gasoline tanks at refueling stations (Stage II Vapor Recovery). The advancement of zero-emission vehicle adoption has also contributed to reduced VOC emissions in the source category. The category will comprise approximately 9% of the total emissions inventory for VOC in 2026.

Evaluation:
AVAQMD Rules 461 - *Gasoline Transfer and Dispensing*, 462 - *Organic Liquid Loading*, and 463 - *Storage of Organic Liquids* regulate this source category in the WMAB. Concurrently, CARB implements statewide Enhanced Vapor Recovery program regulations to implement advanced state-of-the-art vapor control technology on an ongoing basis.

Recent analysis indicates that CARB certified vapor recovery systems designed for use at GDFs are well over 90% effective[14] 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.

Conclusions:
The emission control program for the source category is widely considered the most stringent in the nation, leaving no technological or economically feasible opportunity for further emission reductions. Consequently, there are no Contingency Measures available that would enable further emissions reductions in this source category per USEPA requirements.

Degreasing

Background:
Degreasing operations remove grease and oil from surfaces using various organic solvents. Degreasing operations (combined) will comprise approximately 32% of the total VOC emissions inventory in 2026. In the AVAQMD portion of the WMDONA, VOC emissions form degreasing operations are regulated through SIP approved Rule 1122 – *Solvent Degreasers* and Rule 1171 - *Solvent Cleaning Operations,*[15] which implements RACT level controls for any Facility engaged in Wipe Cleaning, Cold Solvent Cleaning and/or Vapor Cleaning (Degreasing) operations for metal/non-metal parts/products, which utilize volatile Organic Solvents.

Evaluation:
Facilities subject to these rules may not use a Solvent with a VOC content that exceeds 50 grams VOC per liter as applied, for cleaning or surface preparation in any operation, or alternatively, operators may use cleaning materials with a VOC composite vapor pressure limit of 8 millimeters of mercury (mmHg) or less at 20 degrees Celsius. Additionally, the rule establishes that Control Equipment shall reduce emissions from an emission collection system by at least 95 percent (95%), by weight, or by reducing the output of the air pollution Control Equipment to less than 50 ppm calculated for carbon with no dilution;

Further Contingency Measures were not identified as this category is regulated by several SIP-approved rules and there is a lack of further available reductions through additional controls. Furthermore, existing limits are in line with neighboring Districts. A contingency measure should be a measure that would result in the projected emission reductions within a year after the triggering event, or up to within two years with proper justification, no additional qualifying measures were identified.

[14] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2023/vapor_recovery_2023/isor.pdf
[15] 84 FR 31684, 7/2/2019

Farming Operations – Livestock Husbandry

Although Farming Operations - Livestock Husbandry are not present in the AVAQMD, this emission category is present in MDAQMD, which is part of the WMDONA, and was evaluated per MDAQMD Rules and Regulations.

Background:
Farming operations and livestock husbandry comprise approximately 5% of the emissions inventory for VOC in 2026. MDAQMD Rule 1119 includes control measures for the livestock categories identified in 17 CCR §86500(a), specifically: Beef Feedlots; Dairies; Other Cattle; Swine; Turkey; Chicken; and Duck Large Confined Animal Facilities (LCAF). The LCAF permit application includes an emissions mitigation plan which will list a specified number of VOC mitigation measures chosen from the measures listed in the rule for each emission area on their facility. This "cafeteria plan" provides flexibility to facilities considering that CAF facilities vary from one another and not all controls are feasible for all facilities.

Evaluation:
Rule 1119 is applicable to any LCAF pursuant to the requirements of California Health and Safety Code §40724.6. Rule 1119 is primarily based on two SIP approved district rules: Imperial County Air Pollution Control District Rule 217 – Large Confined Animal Facilities (LCAF) Permits Required and San Joaquin Valley Unified Air Pollution Control District Rule 4570 – Confined Animal Facilities.[16] Furthermore, USEPA has indicated in the respective TSDs, that these two rules implement RACT-level controls.

Conclusions:
The District has considered the benefits of adopting a similar rule for smaller CAF's which do not meet the LCAF threshold. However, requiring these controls of smaller sources would result in insufficient emissions reductions to meet the Contingency Measure criteria and could not be implemented within 60 days

Architectural Coatings

Background:
Architectural coatings are any coatings used to enhance the appearance of and to protect stationary structures and their appurtenances, including homes, office buildings, factories, pavements, curbs, roadways, racetracks, bridges, and other structures on a variety of substrates. Architectural coatings are typically applied using brushes, rollers, or spray guns by homeowners, painting contractors, and maintenance personnel.

[16] Imperial County Air Pollution Control District Rule 217 – Large Confined Animal Facilities (LCAF) Permits Required
(2/09/2016, 82 FR 26594, June 8, 2017), and San Joaquin Valley Unified Air Pollution Control District Rule 4570 – Confined Animal Facilities (October 21, 2010, 77 FR 2228, January 17, 2012)

AVAQMD Rule 1113 was most recently amended in 2013 and implements the emissions limitations and other requirements of the rule to those set forth in the SCM for Architectural Coatings as adopted by CARB on October 26, 2007. The amendment lowered the VOC content limits for a number of coatings categories resulting in an estimated 15.2 tons per day reduction in VOC emissions state-wide which represents a 28 percent overall emissions reduction.

Evaluation:
The district evaluated possible contingency measures by comparing AVAQMD Rule 1113 with other Districts' rules. Besides a specific few types of coatings in SCAQMD, an extreme nonattainment area, AVAQMD Rule 1113 is as stringent as comparable districts rules in terms of VOC Content of Coatings.

Conclusions:
There are no Contingency Measures identified that would enable further emissions reductions in this source category per USEPA draft guidance requirements. Furthermore, implementation time would exceed the 60-day threshold for Contingency Measures

Table 13: Architectural Coatings Rule Comparison

Rule	AVAQMD – Rule 1113 Architectural Coatings (Amended 06/18/2013)	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)
Applicability	Except as provided in subsection (A)(3), this rule is applicable to any person who supplies, sells, offers for sale, manufactures, blends, or repackages any Architectural Coating for use within the Antelope Valley Air Quality Management District (District) as well as any person who applies or Solicits the application of any Architectural Coating within the District. This rule does not apply to: **(a)** Any Architectural Coating that is supplied, sold, offered for sale, or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging. **(b)** Any Aerosol Coating Product. **(c)** With the exception of Section (E), any Architectural Coating that is sold in a container with a volume of one (1) liter (1.057 quart) or less.	Any person who supplies, applies, stores, sells, markets, offers for sale, or manufactures any architectural coating that is intended to be field applied within the District to stationary structures or their appurtenances, and to fields and lawns	Any person who supplies, applies, sells, offers for sale, manufactures, blends or repackages any Architectural Coating for use within the District	Any person who markets, supplies, applies, sells, offers for sale, or manufactures, blends, or repackages any architectural coating for use within the District
Primary Coatings (g/L)				
Flat Coatings	50	50	50	50
Nonflat Coatings	100	50	50	50
Specialty Coatings (g/L)				
Aluminum Roof Coatings	400	100	100	100

Basement Specialty Coatings	400	separate applicable rule	400	400
Bituminous Roof Coatings	50	50	50	50
Bituminous Roof Primers	350	350	350	350
Bond Breakers	350	350	350	350
Building Envelope Coatings		50	50	50
Concrete Curing Compounds	350	100	100	350
Concrete/Masonry Sealers	100	separate applicable rule	100	100
Driveway Sealers	50	50	50	50
Dry Fog Coatings	150	50	50	50
Faux Finishing Coatings:	350	separate applicable rule	350	350
Fire Resistive Coatings	350	150	150	150
Floor Coatings	100	50	50	50
Form-Release Compounds	250	100	100	100
Graphic Arts Coatings (Sign Paints)	500	200	500	500
High Temperature Coatings	420	separate applicable rule	420	420
Industrial Maintenance (IM) Coatings:	250	100	250	250
Low Solids Coatings	120	120	120	120
Magnesite Cement Coatings	450	450	450	450
Mastic Texture Coatings	100	100	100	100
Metallic Pigmented Coatings	500	150	500	500
Multi-Color Coatings	250	250	250	250

Pre-Treatment Wash Primers	420	420	420	420
Primers, Sealers, and Undercoaters	100	100	100	100
Reactive Penetrating Sealers	350	350	350	350
Recycled Coatings	250	150	250	250
Roof Coatings	50	50	50	50
Rust Preventative Coatings	250	100	250	250
Shellacs:				
Clear	730	730	730	730
Opaque	550	550	550	550
Specialty Primers, Sealers, and Undercoaters	350	100	100	100
Stains:				
Exterior/Dual		100	100	100
Interior	250	250	100	250
Stone Consolidants	450	450	450	450
Swimming Pool Coatings	340	340	340	340
Tile and Stone Sealer		100	100	100
Traffic Marking Coatings	100	100	100	100
Tub and Tile Refinish Coatings	420	420	420	420
Waterproofing Membranes	250	separate applicable rule	100	100
Wood Coatings	275	275	275	275
Wood Preservatives	350	350	350	350
Zinc-Rich Primers	340	separate applicable rule	340	340
VOC Content of Colorants (g/L)				
Architectural Coatings,excluding IM Coatings		50	50	50
Solvent-Based IM		600	600	600
Waterborne IM		50	50	50

Wood Products Coatings

Although Wood Products Coatings operations are not present in the AVAQMD, this emission category is present in MDAQMD, which is part of the WMDONA, and was evaluated per MDAQMD Rules and Regulations.

Background:
MDAQMD Rule 1114 implements the RACT requirements found in Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations (USEPA-453/R-96-007, April 1996) and Control Techniques Guidelines: Industrial Cleaning Solvents (EPA 453/R-06-001, September 2006). The source category covered by Rule 1114 is also subject to two additional CTGs titled *Control of Volatile Organic Emissions from Existing Stationary Sources – Volume VII: Factory Surface Coating of Flat Wood Paneling* (EPA 450/2-78-032, June 1978) and *Control Techniques Guidelines for Flat Wood Paneling Coatings* (EPA 453/R-06-004, September 2006) for which the District has filed Federal Negative Declarations (October 28, 2019).

The District has several facilities that primarily coat wood products and some additional facilities that may coat wood products as part of their operations. There are no current facilities that meet the specific applicability threshold of the CTG titled Control of *Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations* (sources located in nonattainment areas that emit, or have the potential to emit, 25 tons/year or more of VOCs).

Evaluation:
The most recent amendment of Rule 1114 in 2020 incorporated suggestions from the November 2018 Technical Support Document for EPA's Rulemaking for the California State Implementation Plan for Rule 1114 (EPA-R09-OAR-2018-0512, 12/27/2018), amending the emissions limit for High-Solids Stains coating category, requiring a Work Practice Implementation Plan, and reducing the general exemption limits from 55 gallons per year to 20 to be consistent with the CTG. This rule is also equivalent to comparable District rules and in some cases rules from Districts with an extreme Ozone nonattainment designation.

Conclusion:
No further control measures were identified for use as contingency measures as this rule already has similar requirements to rule from Extreme nonattainment areas, and there is an overall lack of available reductions to satisfy draft guidance requirements. Furthermore, implementation time following a CM trigger would not fall within the 60-day limit.

Table 14: Comparison of MDAQMD Rule 1114 - Wood Products Coatings

Rule	Applicability	Control Measure
South Coast AQMD Rule 1136 - Wood Products Coatings (Last Amended 06/14/96)	Applies to the application of coatings or strippers to, and surface preparation of, any wood products, including furniture, cabinets, shutters, frames, and toys	VOC content limit ranges from 120- 750 g/L VOC (e.g., Low-Solid Stains limit 120 g/L) • Averaging provisions and add-on control are allowed • At least 65% transfer efficiency is required, otherwise the use of additional control equipment must be used. (e.g., HVLP equipment)
Bay Area Air Quality Management District (BAAQMD) Rule 32 – Wood Products Coatings (Last Amended 08/05/09)	Applies to the coating of wood products, including surface preparation, application of coatings and cleanup	VOC content limit ranges from 120- 550 g/L VOC – (No mold seal application limit) (e.g., Low-Solid Stains limit 120 g/L) • Emissions to the atmosphere must be controlled with an abatement device efficiency of at least 85% instead of complying with VOC content limits
Mojave Desert Air Quality Management District (MDAQMD) Rule 1114 - Wood Products Coating Operations (Last Amended 08/24/20)	Applies to wood products coating application operations	VOC content limit ranges from 120- 750 g/L VOC (e.g., Low-Solid Stains limit 120 g/L) • Gives alternative in lieu of complying with the VOC content limits with a capture and control system of combined efficiency

		of at least 90%
SJVAPCD Rule 4606 - Wood Products and Flat Wood Paneling Products Coating Operations (Last Amended 10/16/08)	Applies to the application of coatings to wood products, including furniture, cabinets, flat wood paneling, and custom replica furniture	VOC content limit ranges from 120- 750 g/l VOC (e.g. Low -Solid Stains limit 120 g/L) • Gives alternative in lieu of complying with the VOC content limits with control system of efficiency of at least 85% by weight for wood product coating

Coating Type	SCAQMD 1136, VOC Limit, g/L	MDAQMD Rule 1114 VOC Limit, g/L	SJVAPCD Rule 4606 VOC Limit, g/L	BAAQMD Rule 32 VOC Limit, g/L
Clear Sealers	275	275	275	275
Clear Topcoat	275	275	275	275
Fillers	275	275 (new) 500 (refurbished)	275	275
High-Solids Stains	350	240 (new) 700 (refurbished)	240	350
Inks	500	500	500	500
Low-Solid Stains	120	120	120	120
Mold-Seal Coating	750	750	750	
Multi-colored Coatings	275	275 (new) 700 (refurbished)	275	275
Pigmented Primers, Sealers, & Undercoats	275	275	275	275
Pigmented Topcoats	275	275	275	275

Aircraft and Aerospace Coatings

Background:
VOC emissions from Aircraft and Aerospace Coatings are regulated by AVAQMD Rule 1124 - *Aerospace Assembly and Component Manufacturing Operations.* Rule 1124 was most recently amended in 2013 and is subject to the CTG entitled *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*. In addition, USEPA also has promulgated the Maximum Achievable Control Technology (MACT) Standard for Aerospace Manufacturing and Rework Facilities (40 CFR 63 Subpart GG, commencing with §63.741).

The District has several facilities subject to the provisions of Rule 1124 – Aerospace Assembly and Component Manufacturing Operations. This rule amendment was approved into the SIP (80 FR 60040, October 5, 2015) and determined to fulfill federal RACT at that time.

Evaluation:
A comparison of comparable District Aerospace Coatings rules shows the AVAQMD Rule 1124 has equivalent, and in some cases more stringent limits than Extreme Non-attainment areas such as SCAQMD.

Conclusions:
Reformulating aerospace coatings to achieve lower VOC limits is not feasible as a contingency measure since this process requires significant lead time. No further technological or economically feasible CM's were identified for this source category.

Table 15: Comparison of AVAQMD Rule 1124 – *Aerospace Assembly and Component Manufacturing Operations*

Rule Element	Antelope Valley AQMD Rule 1124 – Aerospace Assembly and Component Manufacturing Operations (Amended 08/20/2013)	MDAQMD Rule 1118 - Aerospace Assembly, Rework and Component Manufacturing Operations (Amended 6/8/2020)	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 – Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 – Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Applicability	This rule applies to any operation associated with manufacturing and assembling products for Aircraft and Space Vehicles. The affected industries include commercial and military Aircraft, satellite, space shuttle and rocket manufacturers and their subcontractors. This rule also applies to maskant applicators, Aircraft refinishers, Aircraft Fastener Manufacturers, Aircraft operators, and Aircraft maintenance and service facilities	any operation associated with manufacturing and assembling products for Aircraft and Space Vehicles. Industries include commercial, civil and military Aircraft, satellite, space shuttle and rocket manufacturers and their subcontractors. Also applies to maskant applicators, Aircraft refinishers, Aircraft Fastener Manufacturers, Aircraft operators and Aircraft maintenance and service facilities	Assembly and component manufacturing operations	Manufacturing, assembly, coating, and cleaning of aerospace components	Surface preparation and coating of aerospace components and cleanup of aerospace coating equipment	Coatings of aerospace components including coating removal, surface preparation and cleaning
VOC Limits	A person shall not apply to Aerospace Components any Aerospace Materials, including any VOC-containing materials added to the original Aerospace Materials supplied by the manufacturer, which contain VOC in excess of the limits specified below:	VOC limits by individual coating category, use of addon controls allowed if lieu of VOC limits	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits	VOC limits by individual coating category; use of addon controls allowed if lieu of VOC limits; 20 gallons per year of non-compliant coatings allowed	VOC limits by individual coating category; use of addon controls allowed if lieu of VOC limits; 100 gallons per year of non-compliant coatings allowed	VOC limits by individual coating category; use of addon controls allowed if lieu of VOC limits
General Primer	350	350	350	350	350	350
Low-Solids Corrosion Resistant Primer	350	350	350	350	-	-
Pretreatment Primer		780	780	780	-	780
Rain Erosion Resistant Coating	800	850	850	N/A	-	-
Adhesion Promoter	850	850	250	850	-	780
Adhesive Bonding Primer - New Aircraft		250	250	250	850	-
Adhesive Bonding Primer – Military Aircraft	805	805	805	805	-	-
Adhesive Bonding Primer		250	250	250	780	-
Topcoat		420	420	420	420/340	-
Clear Topcoat	520	420	520	520	-	-
Unicoat	420	420	420	420	-	-
Wing Coating	750	750	750	750	-	-
Impact Resistant Coating	420	420	420	420	-	-
High Temperature	850	720	850	850	720	420
Antichafe	420	420	600	600	-	-

Rule Element	Antelope Valley AQMD Rule 1124 – Aerospace Assembly and Component Manufacturing Operations (Amended 08/20/2013)	MDAQMD Rule 1118 - Aerospace Assembly, Rework and Component Manufacturing Operations (Amended 6/8/2020)	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Conformal	750	750	750	750	420	600
Optical Anti Reflective	700	700	700	700	-	-
Scale Inhibitor	880	880	880	880	-	-
Metallized Epoxy	700	700	700	740	-	-
Electric or Radiation Effect	800	800	800	800	800	600
Temporary Protective	250	250	250	250	250	250
Fuel Tank	420	420	420	420	720	650
Mold Release	780	780	780	780	-	762
Flight Test – Missiles	420	420	420	420	-	420
Flight Test – All Others	840	840	840	600	-	420
Fire Resistant - Commercial	650	650	650	650	-	600
Fire Resistant – Military	800	800	970	N/A	-	600
Wire Coatings – Phosphate Ester Resistant Ink	925	925	925	925	-	-
Wire Coatings – Other	420	420	420	420	-	-
Space Vehicle – Electrostatic Discharge Protection		800	800	800	-	880
Space Vehicle - Other	1000	-	1000	1000	-	1000
Non Structural Adhesive	250	250	250	250	-	600
Structural Adhesive - Autoclavable		50	50	50	-	600
Structural Adhesive – Non-Autoclavable	850	700	850	850	-	600
Space Vehicle Adhesive	800	800	800	800	-	600
Fuel Tank Adhesive	620	620	620	620	-	600
Fastener Sealant	675	675	675	600/675	600	600
Extrudable, Rollable or Brushable Sealant	280	280	600	280/600	600	600
Other Sealant	600	600	600	N/A	-	600
Maskant for Chemical Processing		250	250	250	-	-
Maskant for Chemical Milling Type I	250	250	250	250	-	622
Maskant for Chemical Milling Type II	160	160	160	250	-	160
Photolithographic Maskant	850	850	850	-	-	850
Touch Up, Line Sealer Maskant	750	1230	750	-	-	850
Fastener Installation Solid-Film Lubricant	880	880	880	880	-	880
Fastener Installation Dry Lubricative Material	675	675	675	880	-	-
Fastener Manufacturing Solid Film Lubricant	250	250	250	250	-	880
Fastener Manufacturing Dry Lubricative Material	120	120	120	120	-	-
Fastener Manufacturing Barrier Coating	420	420	420	250	-	-
Non-Fastener Solid Film Lubricant	880	880	880	880	-	880
Non-Fastener Dry Lubricative Material	675	675	675	675	-	-

Rule Element	Antelope Valley AQMD Rule 1124 – Aerospace Assembly and Component Manufacturing Operations (Amended 08/20/2013)	MDAQMD Rule 1118 - Aerospace Assembly, Rework and Component Manufacturing Operations (Amended 6/8/2020)	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 – Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 – Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Transfer Efficiency	(a) Electrostatic application; (b) Flow coater; (c) Roll coater; (d) Dip coater; (e) High-Volume, Low-Pressure (HVLP) Spray; (f) Hand Application Methods	Use of HVLP or equivalent transfer efficiency	Use of HVLP or equivalent transfer efficiency	Use of HVLP or equivalent transfer efficiency	Use of HVLP or equivalent transfer efficiency	Use of HVLP or equivalent transfer efficiency
Work Practices	All VOC containing material, used or unused, including but not limited to surface Coatings, thinners, cleanup solvents, or surface preparation materials, and all solvent laden cloth and paper, shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times except during extraction or introduction of material for mixing, use or storage.	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning
Surface Cleaning	(i) The VOC composite partial pressure is 45 mm Hg or less at a temperature of 20°C (68°F); or (ii) The material contains 200 grams or less of VOC per liter of material.	45 mm Hg	200 g/L or 45 mm Hg	200 g/L or 45 mm Hg	None	200 g/L or 45 mm Hg
Stripping	300 grams of VOC per liter of material; or the VOC composite partial pressure is 9.5 mm Hg (0.18 psia) or less at 20°C (68°F	300 g/L or 9.5 mm Hg	300 g/L or 9.5 mm Hg	300 g/L or 9.5 mm Hg	400 g/L or 10 mm Hg	300 g/L or 9.5 mm Hg

Conclusions

The District is already implementing all reasonable stationary control measures (and the State is already implementing all feasible non-mobile control measures). Any measures which are applicable and feasible are in place – no opportunities exist to obtain the tons per day of emission reductions required by the contingency measure requirement within the stationary source categories subject to the District's control authority. Any measure that could achieve this level of stationary source reductions would be adopted to improve air quality and support attainment of the NAAQS, and would not be withheld for contingency purposes.

Nonetheless, the MDAQMD has committed to a contingent control measure which will obtain some emission reductions in the WMDONA, if needed. The MDAQMD has reaffirmed the use of the State Enhanced Inspection and Maintenance (Enhanced I&M) Program as a contingency measure. With the addition of the CARB Smog Check Contingency Measure, the WMDONA has a State and local air district measure available to trigger as contingency measures. The MDAQMD enhanced smog check measure would generate a minimum of 0.03 tons per day of VOC reductions and 0.04 tons per day of NOx reductions. The contingency measures achieve less than the required amount of reductions, however, the AVAQMD and CARB were not able to identify any other qualifying contingency measures.

Furthermore, CARB, the AVAQMD and USEPA recently engaged in an extensive analysis of potential control measures[17]. RACM analysis as performed during recent attainment plan development, for example, was an exhaustive examination of stringency, economic, and technological feasibility. In addition, such analysis covered all the source categories including sources considered minor sources, existent within the FONA which potentially have the ability to contribute in a meaningful amount to the nonattainment.[18]

In 2021, USEPA completed an analysis focused on identifying potential NOx measures that have yet to be implemented by comparing applicable rules for stationary and area sources as part of an evaluation of the 2016 AVAQMD and MDAQMD Attainment Plans.[19] The analysis concluded no new measures could achieve the 1.2 tpd of NOx EPA conservatively estimated was needed to advance attainment by 1 year. This further illustrates the difficulty the AVAQMD now faces to find any combination of additional measures resulting in 1.50 tpd of NOx reductions and which could be put in place within 6 months of a finding of failure to attain. The two new measures were identified by USEPA in their analysis; a new rule for residential water heaters and various amendments to the AVAQMD Boiler and Process Heaters Rule (AV1146). Even combined, these measures only totaled 0.47 tpd of NOx, with many reductions occurring more than 5-10 years in the future as equipment is replaced over time.

[17] AVAQMD 2023 70 ppb Ozone Attainment Plan

[18] Otherwise known as Facilities which emit or have the potential to emit more than the Federal Major Source threshold of nonattainment air pollutants as well as those Facilities covered by CTG's or Alternative Control Techniques Guidance (ACTs).

[19] EPA-R09-OAR-2020-0254

As noted above, the District will adopt an amended residential water heater rule for heaters with Heat Input rates less than 75,000 BTU per hour. A re-analysis covering the same issues and subject matter appears to be mere extraneous effort for no clear air quality benefit, especially when USEPA is unable to identify measures that fulfill their own requirements with significantly more resources than a local District. The only place where such an analysis would be reasonable would be if the underlying control techniques guideline (CTG) or RACT itself has shifted between the last analysis and the present.

It must be noted that the underlying rubric of the Federal Clean Air Act that while State, and Local agencies have the primary responsibility for the reduction of air pollution there is a substantial Federal role.[20] Specifically, motor vehicle and other mobile sources, are clearly identified under the Federal Clean Air Act, as source category specifically under Federal control. While emissions standards for stationary sources and light-duty motor vehicles have improved tremendously over the last thirty years the regulation of many heavy-duty mobile sources such as locomotive and interstate trucking has not kept pace. In fact, it is only very recently that USEPA has even commenced the initial stages to consider potential controls on such sources. That being said, one ends up with the situation that no matter what contingency measures are adopted and implemented "One Year's Worth of Emissions Reductions" will be impossible to ever be achieved.

In the AVAQMD this situation is exacerbated by the overwhelming intrastate transport from upwind extreme ozone nonattainment areas which themselves have significant emissions from mobile sources. Unfortunately, air pollution does not stay put in one area and thus in many places' attainment is highly dependent upon actions occurring in upwind jurisdictions regardless of the number and effect of contingency measures adopted. As noted previously, the AVAQMD is overwhelmingly impacted by emissions emanating in the SCAB and the SJV to its south and north-west respectively and the adoption of contingency measures will have no impact on those emissions.

Finally, USEPA indicates that a nonattainment area should consider adopting measures from a higher classification area prior to attempting an infeasibility analysis.[21] It is heavily implied that all such measures should be adopted regardless of the amount or nature of the emissions reductions obtained from such measures. This would result in a de facto bump up in the level of control required to that of the higher nonattainment area. This is an untenable requirement, especially in California, where the regulations in the extreme nonattainment areas, SCAQMD and San Joaquin Unified APCD, are more in line with BACT, LAER, or in some cases are technology forcing. The FCAA does not require this level of control in non-extreme ozone nonattainment areas.
To make matters even more complex, in California there is a requirement that any new or modified permit unit which emits or has the potential to emit 25 pounds per day or more of a nonattainment air pollutants be equipped with Best Available Control Technology (BACT).[22] This requirement is codified in many air districts, the AVAQMD included, New Source Review

[20] 42 U.S.C. §7401(a)(3), Federal Clean Air Act §101(a)(3)
[21] Draft Guidance, pgs. 8, 33
[22] California Health & Safety Code §40918{a){l), emphasis added

rules.[23] Thus, any facility in a source category affected by a contingency measure which has happened to modify prior to the triggering event will have already installed BACT thus rendering the contingency measure less effective overall.

In the AVAQMD there are simply no opportunities for further emission reductions from these sources as they not only have RACT but also acquire BACT not only when equipment is originally installed but also whenever it is modified. This has resulted in the emissions inventories in the AVAQMD to become dominated by mobile source emissions, a good portion of which are Federally regulated. Add to this the overwhelming impact of upwind areas and you have a situation where the infeasibility analysis becomes the only method available to the AVAQMD to meet the 42 U.S.C. §7502(c)(9) and §7511a(c)(9) contingency measure requirements. In conclusion, no individual nor combination of potential Contingency Measures for stationary sources under District authority, if adopted and implemented, could provide the 1.5 tpd of NOx and 0.38 tpd of VOC reductions that would be needed to satisfy the requirement that CMs should achieve emissions reductions equal to or greater than one year's worth of RFP for the Ozone nonattainment area.

As stated above, the AVAQMD respectfully submits to the SIP the following contingency measures to be included in the WMDONA 75 ppb Ozone Attainment Plan. Should the contingency measure be triggered by failure to attain the Federal 75ppb ozone standard, the District will implement the CARB Enhanced Smog Check Contingency Measure.

[23] AVAQMD Regulation XIII as amended 7/20/2021 and prior versions thereof

Appendix A:
California Smog Check Contingency Measure State Implementation Plan Revision

California Smog Check Contingency Measure State Implementation Plan Revision

Released: September 15, 2023

CALIFORNIA
AIR RESOURCES BOARD

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*, <u>all</u> 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

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[9] 88 Fed. Reg. 53431 (August 8, 2023)

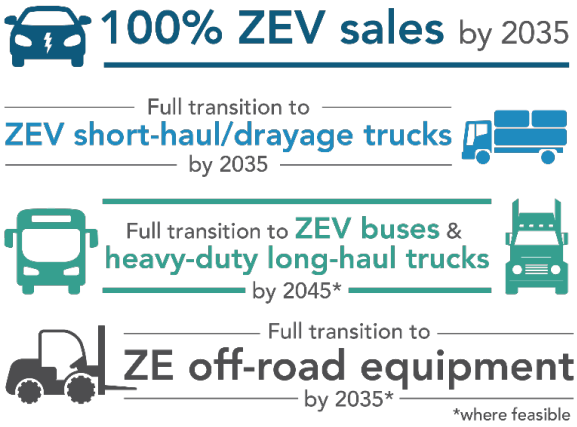
[10] Source: CARB 2022 CEPAM v1.01; based on 2037 emissions totals.

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

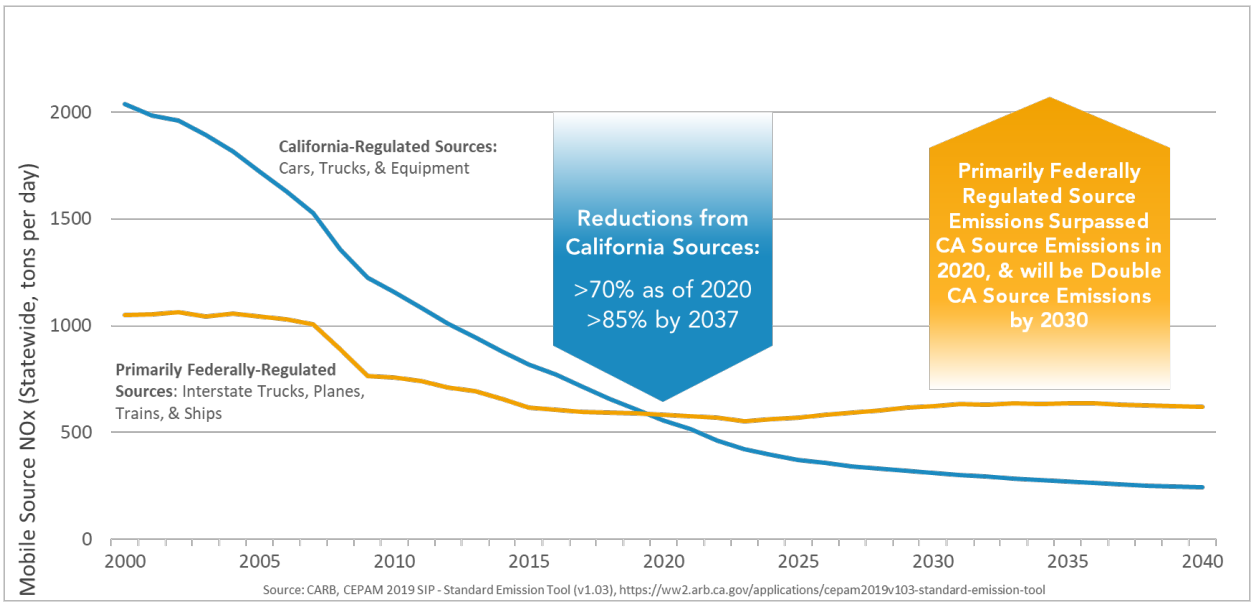
Emission Source	Regulatory Programs
Light-Duty Passenger Vehicles and Light-Duty Trucks	• Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle Regulation • Clean Miles Standard
Motorcycles	• On-Road Motorcycle Regulation*
Medium Duty-Trucks	• Advanced Clean Cars Program (I and 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 μg/m^3 and 15 μg/m^3 annual PM2.5, and 35 μg/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

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[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 Refrigeratio n 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 Requirement s 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 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
Construction and Mining	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

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 implementati on 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 implementati on 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*

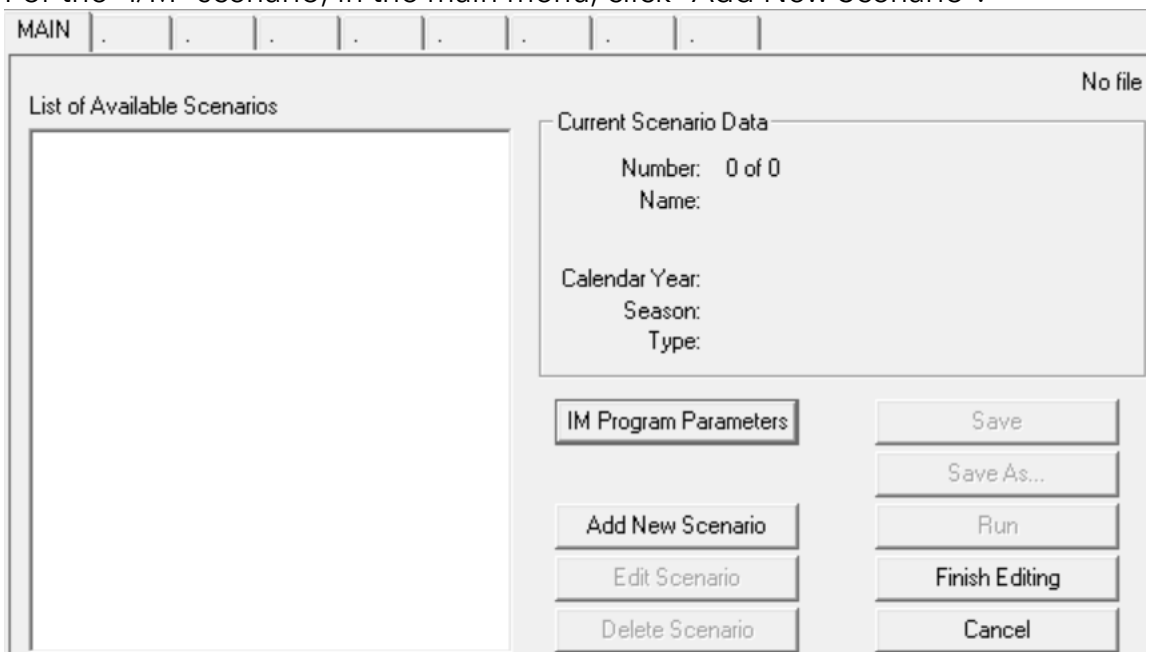
Benefits of removing 8-year exemption = Age 8 No-I/M emissions – Age 8 I/M emissions = (EMFAC2021 Age 8 Gasoline Vehicle Emissions[26] × EMFAC2011 Age 8 No-IM/IM Ratio[27]) – EMFAC2021 Age 8 Gasoline Vehicle Emissions[26]

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.

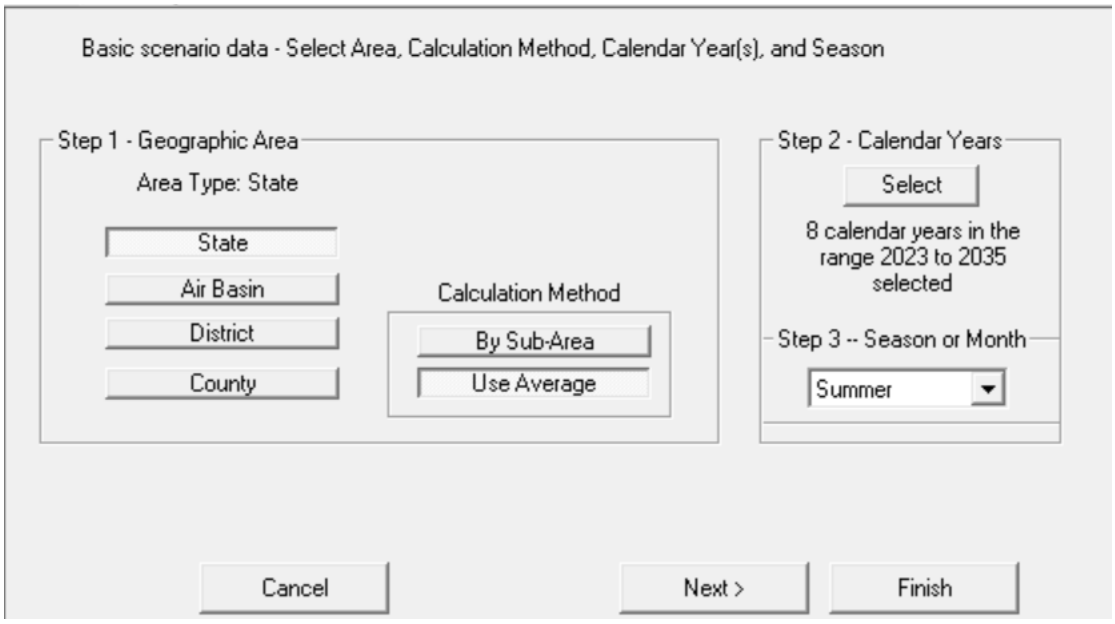
Instructions For Configuring and Running EMFAC2011

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

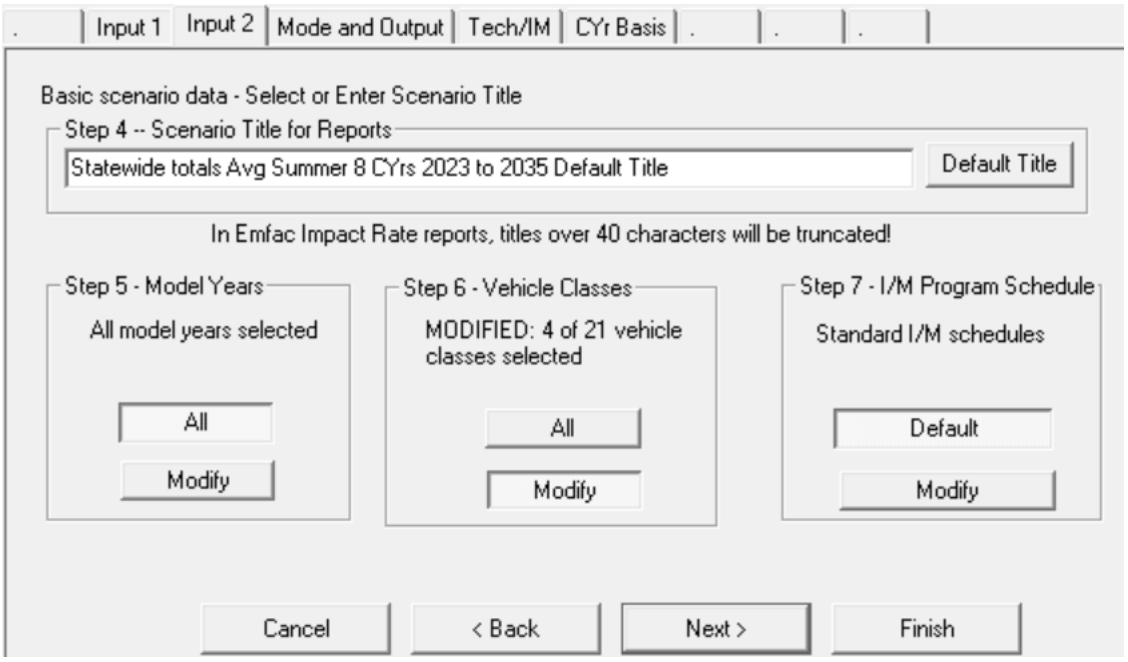


2. Select "State", "Use Average" in "Step 1 – Geographic Area", select modeled calendar year(s) in "Step 2 – Calendar Years", Select "Summer" for ozone NAAs or "Annual" for PM NAAs in "Step 3 - Season or Month", then click "Next".

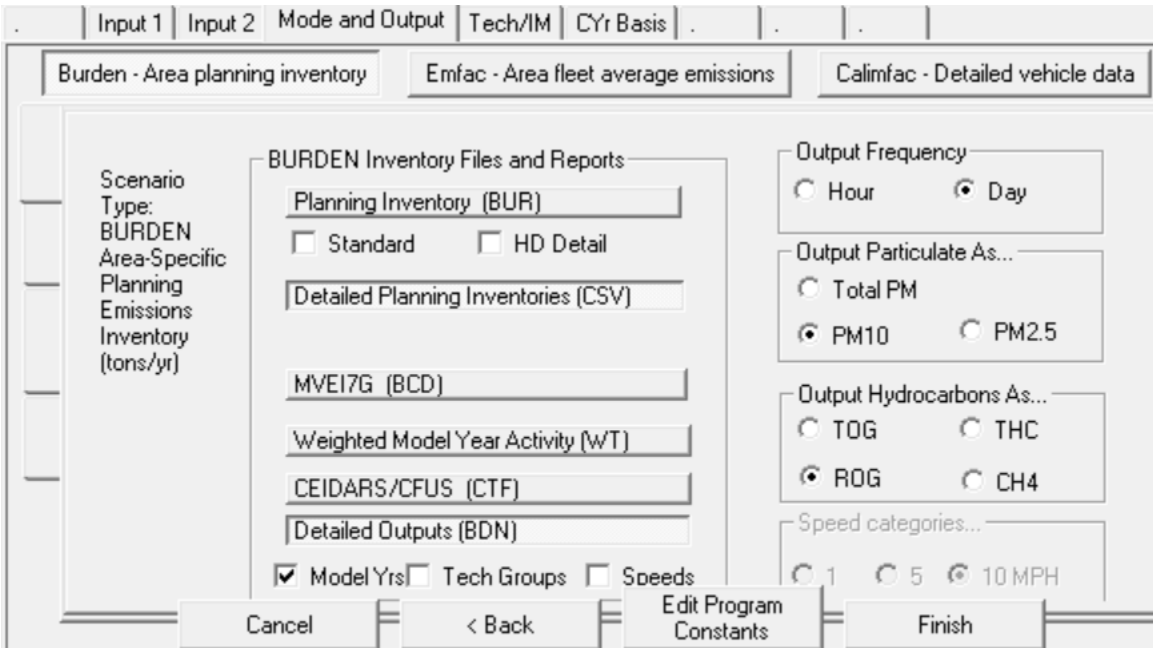
[26] Include all gasoline vehicle classes subject to California Smog Check Program
[27] Derived based on light-duty vehicle classes under 8,500 lbs. in EMFAC2011



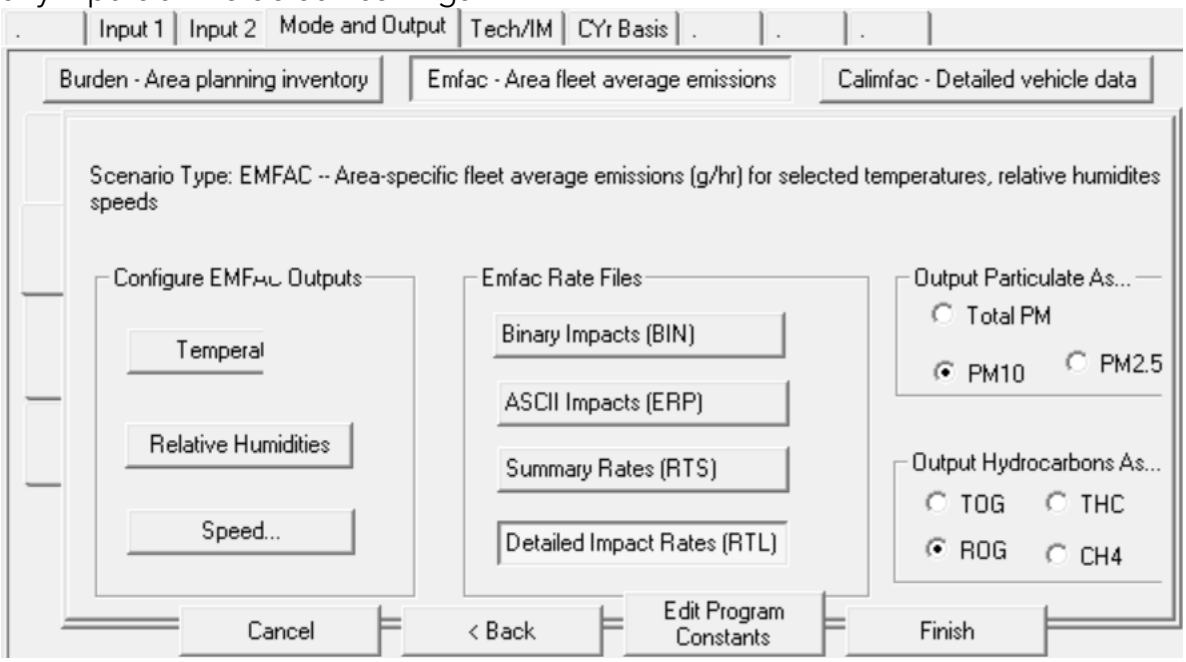
3. Click "Default Title" in "Step 4 – Scenario Title for Reports", select "All" in "Step 5 – Model Years", select "Modify" in "Step 6 – Vehicle Classes" and choose "PC/T1/T2/T3" from the pop-up window, select "Default" in "Step 7 – I/M Program schedule", then click "Next".



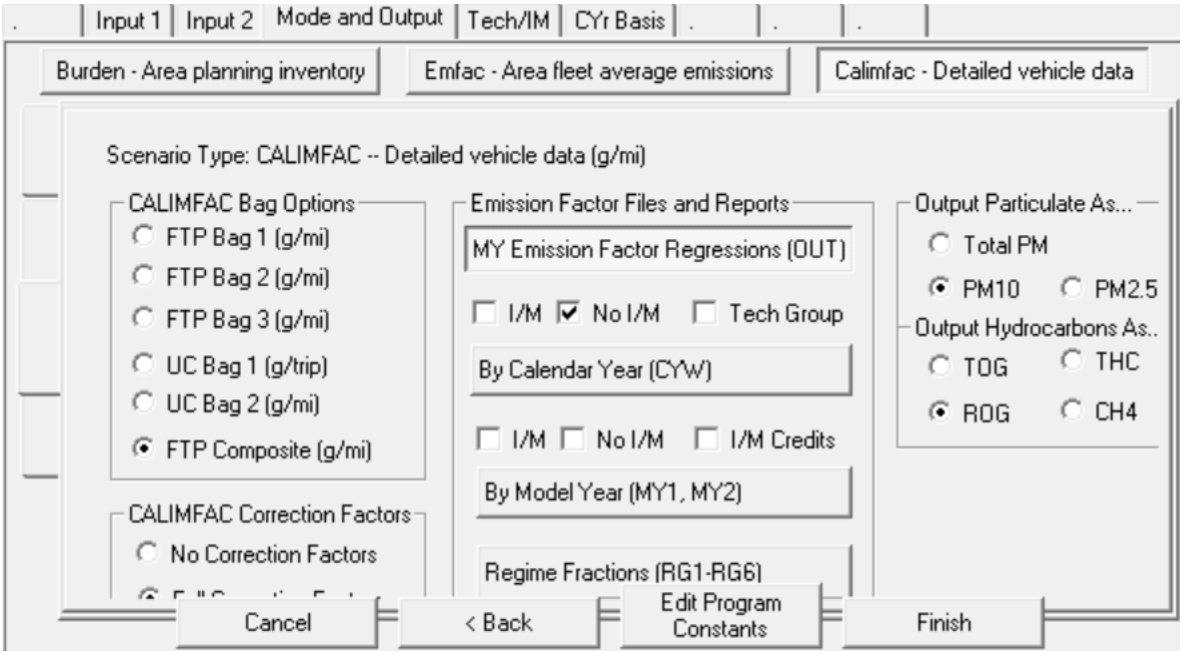
4. In the tab "Burden – Area planning inventory", choose "Detailed Planning Inventories (CSV)" and click "Model Yrs". Select "Output Frequency" as "Day".



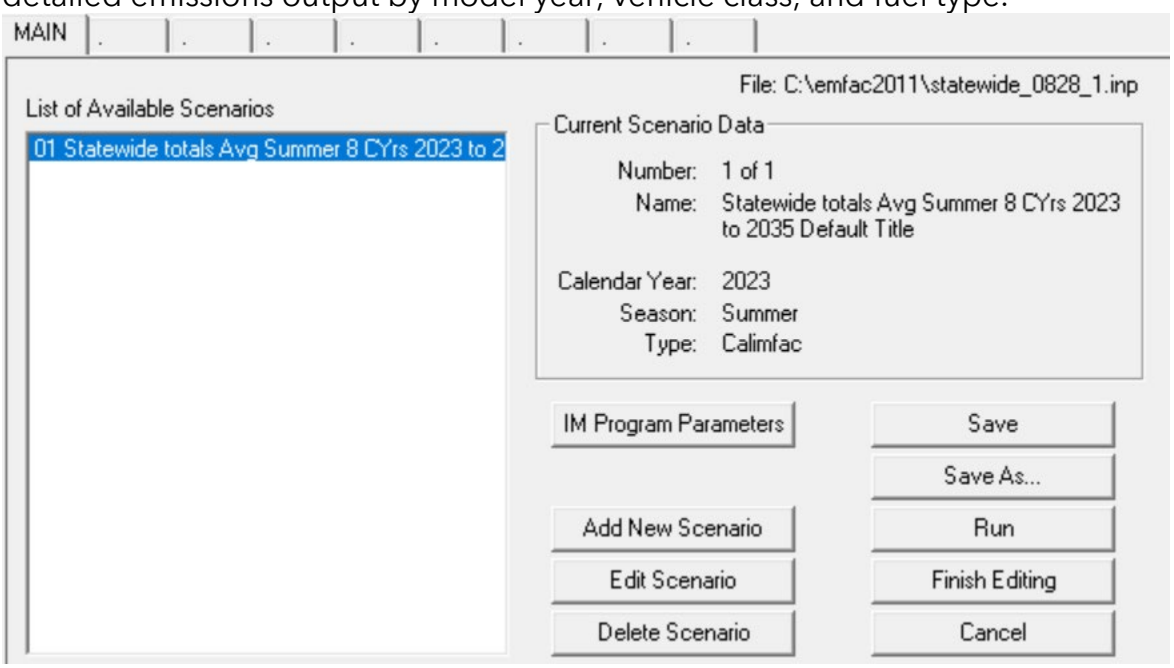
5. No need to change any inputs in tab "Emfac – Area fleet average emissions". Leave any inputs at the default settings.



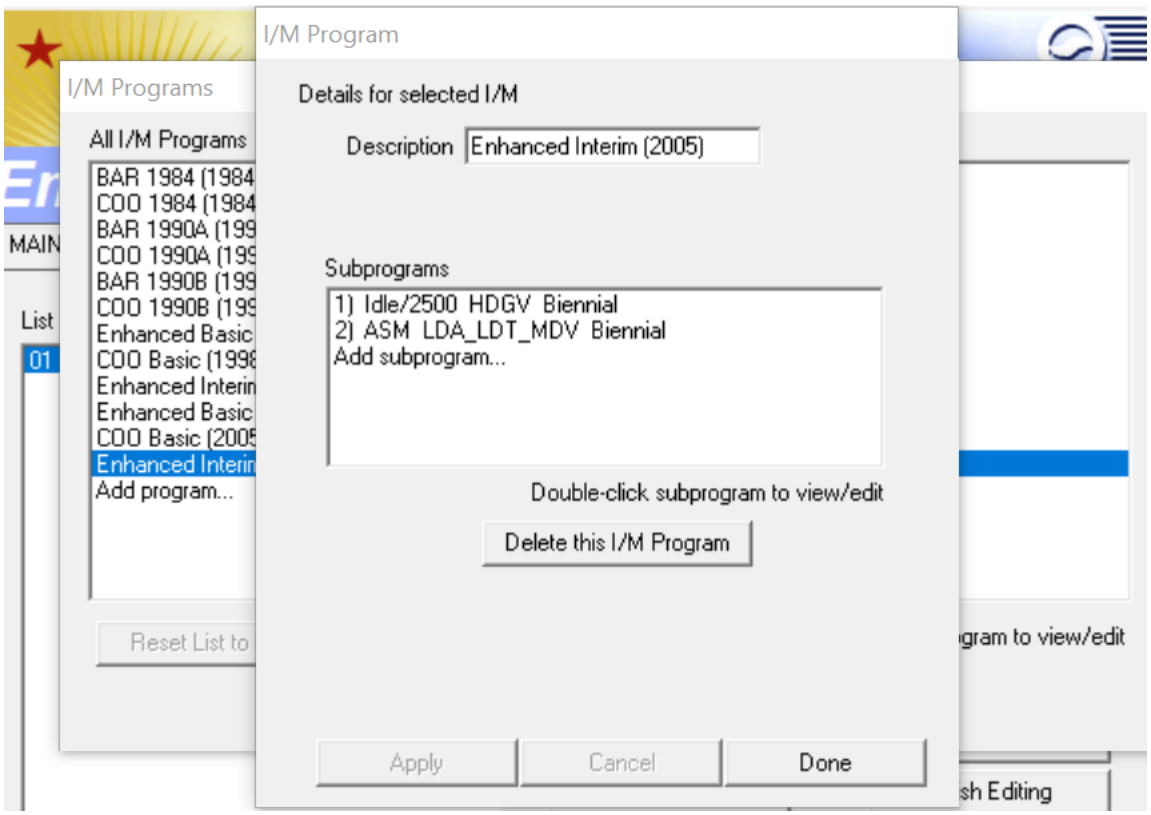
6. No need to change any inputs in tab "Calimfac – Detailed vehicle data". Leave any inputs at the default settings. Click "Finish" to go back to the main menu.



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
Details for selected I/M
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
I/M Programs
All I/M Programs
BAR 1984 (1984
COO 1984 (1984
BAR 1990A (199
COO 1990A (199
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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]

[redacted]

[redacted]

[redacted]

[redacted]

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[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted].

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

Appendix B:
CARB's Area Source Infeasibility Justification

Appendix B:

CARB's Area Source Infeasibility Justification

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 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 2), 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 Western Mojave Desert 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 national ambient air quality standards (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 leak detection and repair (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[1], which is not economically feasible to control based on analysis using currently available data.

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

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 tanks. 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 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[2] 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.

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.

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

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 area-wide 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), the 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 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 broad 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 across California, DPR committed to update their 1,3-Dichloropropene (1,3-D) regulations for health risk mitigation and volatile organic compound emissions reductions. The 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 submitted the rulemaking documents to the Office of Administrative Law on November 7, 2023, for final review and if approved will go into effect on January 1, 2024.

DPR has divided pesticide products into two groups for SIP purposes: fumigants and nonfumigants. 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 and this 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.

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 WMDONA.

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 the Table below. 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 1: 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.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
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.
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.

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
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.
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

Appendix C:
West Mojave Desert Infeasibility Justification – Transportation Control Measures (TCMs)

West Mojave Desert Infeasibility Justification – Transportation Control Measures (TCMs)

Transportation Control Measures (TCMs) are strategies that reduce motor vehicle emissions by decreasing vehicle trips, vehicle usage, vehicle miles traveled (VMT), vehicle idling, and traffic congestion. TCMs are either one of the 16 types of measures listed in federal Clean Air Act (CAA) Section 108(f)(1)(A) (refer to Table 1 below) or any other measures aimed at reducing emissions or concentrations of air pollutants from transportation sources by decreasing vehicle usage or altering traffic flow and congestion conditions. According to the U.S. EPA's Transportation Conformity Regulations, measures based on vehicle technology, fuel, or maintenance that control emissions from vehicles under fixed traffic conditions are not considered TCMs. Roadway capacity enhancement is also not typically considered TCM category.

Table 1. List of TCMs under CAA Section 108(f)(1)(A)

(i) Programs for improved public transit;
(ii) Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
(iii) Employer-based transportation management plans, including incentives;
(iv) Trip-reduction ordinances;
(v) Traffic flow improvement projects that achieve emission reductions;
(vi) Fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;
(vii) Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during period of peak use;
(viii) Programs for the provision of all forms of high-occupancy, shared-ride services;
(ix) 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;
(x) 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;
(xi) Programs to control extended idling of vehicles;
(xii) Programs to reduce motor vehicle emissions, consistent with title II of the CAA, which are caused by extreme cold start conditions;
(xiii) Employer-sponsored programs to permit flexible work schedules;
(xiv) 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;
(xv) 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
(xvi) 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 terms of transportation planning and programming, West Mojave Desert falls under the jurisdiction of the Southern California Association of Governments (SCAG), the Los Angeles County Metropolitan Transportation Authority (LA Metro) (Antelope Valley portion), and the San Bernardino County Transportation Authority (SBCTA) (San Bernardino portion). Consequently, TCM projects are proposed, implemented, and updated as part of the ongoing regional and county transportation planning and programming processes. SCAG serves as the Metropolitan Planning Organization (MPO) for the six-county

SCAG region, which includes Los Angeles and San Bernardino counties for which LA Metro and SBCTA act as the respective County Transportation Commission (CTC) where West Mojave Desert area is situated.

SCAG, LA Metro, and SBCTA have established a comprehensive and formal process for identifying, evaluating, and selecting TCMs. LA Metro and SBCTA, through an extensive project development and selection process, serves as the lead agencies responsible for recommending transportation projects, including TCM projects within the respective Los Angeles County and San Bernardino County for funding under SCAG's long-range Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The RTP/SCS is updated every four years to incorporate changes in trends, assess progress made on projects, and adjust growth forecasts for population and employment changes. This long-range RTP/SCS integrates land use and transportation strategies aimed at achieving California Air Resources Board (CARB) greenhouse gas emissions reduction targets, providing a vision for transportation investments throughout the region. By utilizing growth forecasts and economic trends projecting over a period of more than 20 years, the RTP/SCS considers the role of transportation within the broader context of land use, the economy, the environment, and future quality-of-life goals. It identifies regional transportation strategies and a Sustainable Communities Strategy to address our mobility needs, air quality, and the challenges of climate change.

The RTP/SCS is developed through a collaborative process guided by SCAG's governing board, the Regional Council, its Policy Committees, Sub-committees, the Transportation Working Group, numerous technical advisory committees, working groups, and task forces, CTCs, subregions, local governments, state and federal agencies, environmental and business communities, tribal governments, non-profit groups, as well as the general public. Connect SoCal 2020 is the currently adopted RTP/SCS, while Connect SoCal 2024 is under development and scheduled for adoption by SCAG's Regional Council in April 2024.

In addition, the TCM projects in the West Mojave Desert are programmed and updated as part of SCAG's short-term Federal Transportation Improvement Program (FTIP) development process. The FTIP implements the RTP/SCS and is updated every two years.

SCAG develops the FTIP in partnership with the CTCs of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, as well as the California Department of Transportation (Caltrans) Districts 7, 8, 11, and 12. The FTIP is a multimodal list of capital improvement projects to be implemented over a six-year period. It identifies specific funding sources and funding amounts for each project. The FTIP is prioritized to implement the region's overall strategy for providing mobility, improving the efficiency and safety of the transportation system, and supporting efforts to attain federal and state air quality standards by reducing transportation-related air pollution in the region. It must include all federally funded transportation projects in the region, as well as all regionally significant transportation projects requiring approval from federal funding agencies, regardless of funding source. The FTIP is developed incrementally to implement the programs and projects outlined in the adopted RTP/SCS. The currently adopted FTIP is the 2023 FTIP, while the 2025 FTIP is under development and scheduled for adoption by SCAG's Regional Council in September 2024.

The regular RTP and FTIP public update processes ensure that the identification and implementation of TCMs are routine considerations that assist SCAG in its efforts to support attainment of applicable National Ambient Air Quality Standards (NAAQSs) in the West Mojave Desert ozone nonattainment area.

In the West Mojave Desert, the following three categories of TCM projects and programs are identified and

developed by the RCTC and included in SCAG's RTP/SCS and FTIP:

1. Transit and non-motorized modes;
2. High Occupancy Vehicle (HOV) Lanes their pricing alternatives; and
3. Information-based Transportation Strategies.

As documented in the Western Mojave Desert Nonattainment Area's 70 PPB Ozone Attainment Plan, which was separately adopted by the Mojave Desert Air Quality Management District (MDAQMD) Governing Board and the Antelope Valley Air Quality Management District (AVAQMD) Governing Board in January 2023, the emission reduction benefits from TCMs are minimal due to "overwhelming influence of pollutant transport from the SCAB and SJVAB," and no new TCMs would advance the area's attainment date by one year.

TCMs are not suitable as candidate contingency measures. TCMs must be developed through the area's regional and county long-range transportation planning processes, which typically operate on a four-year cycle. Furthermore, TCMs are funded by various federal, state, and increasingly, local sources, each with their respective programming requirements. Therefore, considering the significant time required to advance these projects through the planning and funding processes, TCMs are not viable options as contingency measures that would contribute to advancing the area's attainment date by one year.