

# Zero-Emission Forklift Regulation Overview

State and Local Government  
Fleet Rule



# Zero-Emission Forklift Regulation in the State Implementation Plan

- Necessary measure to meet air quality standards by deadlines established in the Clean Air Act
- Reduction of oxides of nitrogen and reactive organic gases emissions leads to less adverse health cases across the state
- EO-79-20: Develop and propose strategies to achieve 100% zero-emission (ZE) from off-road vehicles in state by 2035



# Zero-Emission Forklift Regulation Overview

**Affected Forklifts:** Large-Spark Ignition (LSI), i.e., propane, natural gas, or gasoline

- Class IV: solid or cushion tires, dry and smooth surfaces (indoor warehouses)
- Class V: pneumatic tires, rough or uneven terrain (indoor and outdoor)

**2026 Provisions:** Fleet operators may not acquire LSI Forklifts

**2028-2038 Provisions:** LSI Forklifts to be phased out, oldest model year (MY) first

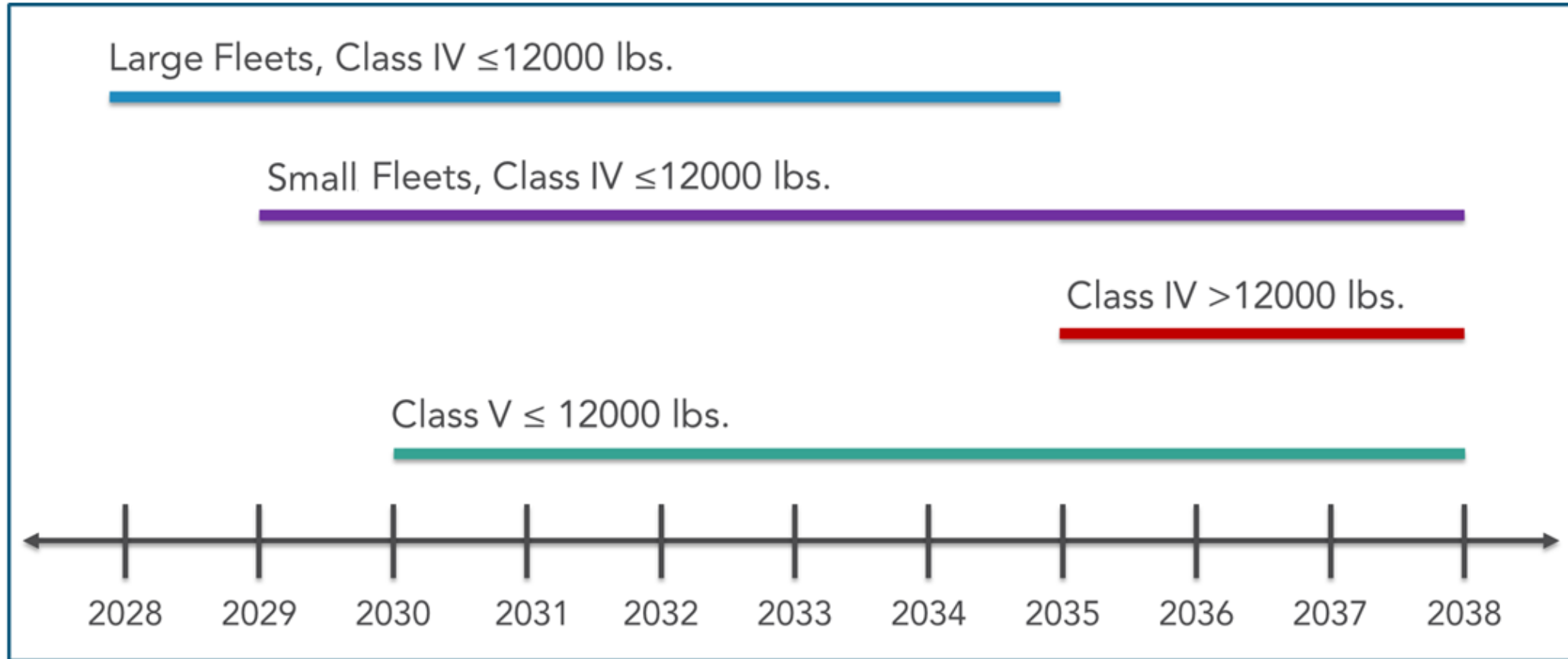
**Initiate discussions with electric** utility provider by March 31, 2026, re: necessary upgrades

- ***CARB has not yet sought an authorization request for of the Zero-Emission Forklift (ZEF) Regulation from the U.S. Environmental Protection Agency. CARB staff will not enforce the ZEF regulation against any privately-owned or operated fleets. California state and local government fleets must continue to comply with the ZEF Regulation.***

# Initiate Discussions with Electric Utility Provider

- Fleet Operators contact applicable electric utility provider by **March 31, 2026** to initiate discussions regarding potential electrical-service installations or upgrades
  - Must discuss each separately metered building or operating location with LSI Forklifts
- Fleet operator must provide:
  1. Address of each California location where LSI Forklifts operated
  2. For Each Location:
    - a) Estimated numbers and types of chargers to be installed each year
    - b) If applicable, power requirements of any infrastructure necessary to be installed
    - c) Information on other new sources of power demand anticipated
    - d) Electrical load profiles depicting location's typical electricity usage on hourly, daily, and monthly basis

# Forklift MY Phase-out Timeline



**Large Fleets:** Greater than 25 LSI & ZE forklifts combined

**Small Fleets:** 25 or less LSI & ZE forklifts combined

# Forklift MY Phase-out Schedule

Starting	Class IV <= 12,000 lbs	Alternative* Class IV <= 12,000 lbs	Class IV > 12,000 lbs	Class V <= 12,000 lbs
2028	2018 MY & older**			
2029		2016 MY & older**		
2030				2017 MY & Older**
2031	2019 -2021 MY			
2032		2017 -2019 MY		
2033	2022 & 2023 MY			2018 -2020 MY
2034		2020 & 2021 MY		
2035	2024 & 2025 MY		2025 MY & older	2021 & 2022 MY
2036		2022 & 2023 MY		
2038		2024 & 2025 MY	Alternative* 2025 MY & older	2023 -2028 MY***

\* Alternative Schedule Available to Small Fleets

\*\* Eligible for phase-out percentage cap

\*\*\* Includes 2026 through 2028 MY Class V LSI Forklifts in Rental Agency Revenue Fleets

# Exemptions and Extensions

## Exemptions

- Low-Use
- Dedicated Emergency Forklifts
- Out-of-State Delivery
- San Nicolas and San Clemente Islands
- In-Field Forklift

## Extensions

- ZEF Delivery Delay
- Infrastructure Construction
- Infrastructure Site Electrification
- Operational Extension

# Reporting Timeline for State and Local Government Forklift Fleets

Compliance Deadline	Reporting or Action Needed
March 31, 2026	Initiate discussions with utility provider and submit correspondence to CARB
April 30, 2026	Initial report for large fleets due
September 30, 2026	Initial report for small fleets due
January 1, 2028	Large fleet: MY Phase-Out Schedule for Class IV LSI Forklifts begin
January 1, 2029	Small fleet: Alternative MY Phase-Out Schedule for Class IV LSI Forklifts begin
January 1, 2030	Small and large fleets: MY Phase-Out Schedule for Class V LSI Forklifts begin
April 30	Annual update for large fleets due
September 30	Annual update for small fleet due

Reporting for the Zero-Emission Forklift Regulation shall be completed on the Diesel Online Off-Road Reporting System (DOORS)

# Resources



**ZEFORKLIFTS@ARB.CA.GOV**



**1-877-593-6677**





# **In-Use Off-Road Diesel-Fueled Fleets (ORD Program)**

## **Overview of Program with 2022 Amendments**



# Outline

- Background
- Amendments
- Resources

# Program Background

## Overview

CARB's ORD Program has been in effect since 2008

- Applicability:
  - Vehicles with diesel engines 25 horsepower and up<sup>1</sup>
  - Construction, mining, industrial equipment, and others
  - Some two-engine on-road vehicles and workover rigs
- Declining fleet average emissions targets
- Ban on adding Tier 0 - Tier 2 vehicles
- Report and label all vehicles
- Idling limits

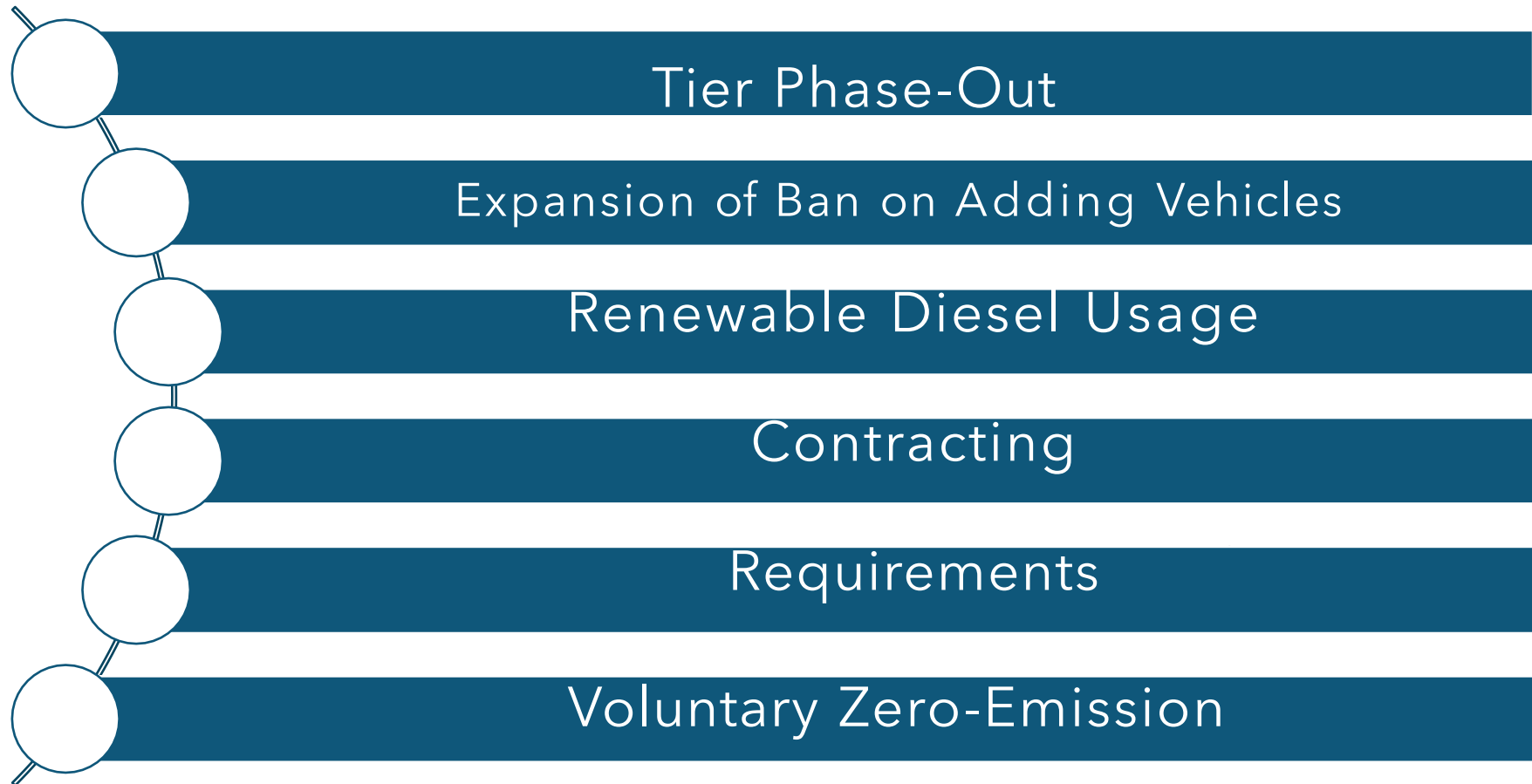
<sup>1</sup>Dedicated snow removal, part-time agricultural, and emergency vehicles are exempt from most requirements, but must still report and label.



Vehicle Label

# The California Air Resources Board Adopts Amendments

Approved by Office of Administrative Law, effective date October 1, 2023



# Off-Road Engine Standards

- The engine tier correlates with the emission standard established by the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (CARB)
- CARB recommends the fleet check the emission control label on the engine for the engine tier.

<b>Tier</b>	<b>Emissions</b>
<b>0</b>	Dirtiest
<b>4 Final</b>	Cleanest

# Tier Phase-Out

<b>Year (January 1)</b>	<b>Large Fleets &gt; 5,000 total hp</b>	<b>Medium Fleets 2,501 to 5,000 total hp</b>	<b>Small Fleets ≤ 2,500 total hp</b>	<b>Optional Ultra-Small Fleets ≤ 500 total hp</b>
<b>2024</b>	Tier 0			
<b>2026</b>	Tier 1	Tier 0		
<b>2028</b>	Tier 2	Tier 1	Tier 0	Tier 0
<b>2030</b>		Tier 2	Tier 1	Tier 1
<b>2032</b>			Tier 2	
<b>2036</b>				Tier 2

- Tier 0 includes model year (MY) 1994 or older on -road
- Tier 1 includes MY 1999 or older on-road
- Tier 2 includes MY 2003 or older on-road

# Expansion of Ban on Adding Vehicles

Year (January 1)	Large Fleets >5,000 total hp	Medium Fleets 2,501 to 5,000 total hp	Small Fleets ≤2,500 total hp	Optional Ultra- Small Fleets ≤500 total hp
<b>2024</b>	Tier 3 Tier 4i	Tier 3 Tier 4i	Tier 3	Tier 3
<b>2028</b>			Tier 4i	
<b>2035</b>				Tier 4i

Beginning January 1, 2024, fleets will also be prohibited from adding a vehicle with a Tier 0 engine as:

- Dedicated snow removal vehicles
- Vehicles used for emergency operations
- Job corps vehicles
- Tier 4i phase also includes MY 2006 or older on-road

# Renewable Diesel Requirements

- Renewable diesel (RD) is a transportation fuel produced from non-petroleum renewable sources.
- Fleets required to use RD starting January 1, 2024
- Fleets must attest that they are compliant and keep records that demonstrate compliance
- Some limited exemptions



# Renewable Diesel Usage: Exemptions

## Any Fleet or Fleet Portion

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- Inability to procure
- 100% Tier 4 final, MY 2010 or newer on-road engines, or zero-emission
- Designated captive attainment area fleets or vehicles while operating in a county listed under the captive attainment definition, section 2449(c)(6)
- Cold Temperature - Cold Climate and Intermittent Low Temperature

# Contracting and Prime Contractor Requirements

## Contracting

- Obtain valid Certificates of Reported Compliance (Certificate) for any fleet hired and their listed subcontractors
- Shall not enter into a contract with a fleet that does not have a valid Certificate
- Exemption for emergency operations
  - Keep records
  - Attestation by the fleet

**Applicable to all contracting entities - public works awarding bodies and prime contractors**

## Prime Contractors

- Report observed non-compliance to CARB
  - Such as unlabeled vehicles or fleets without a valid Certificate
- Disclose ownership information to CARB at the job site
- Post signage with Off-Road Diesel Program information at job site
- Signage available for download

**Requirements for prime contractors only**

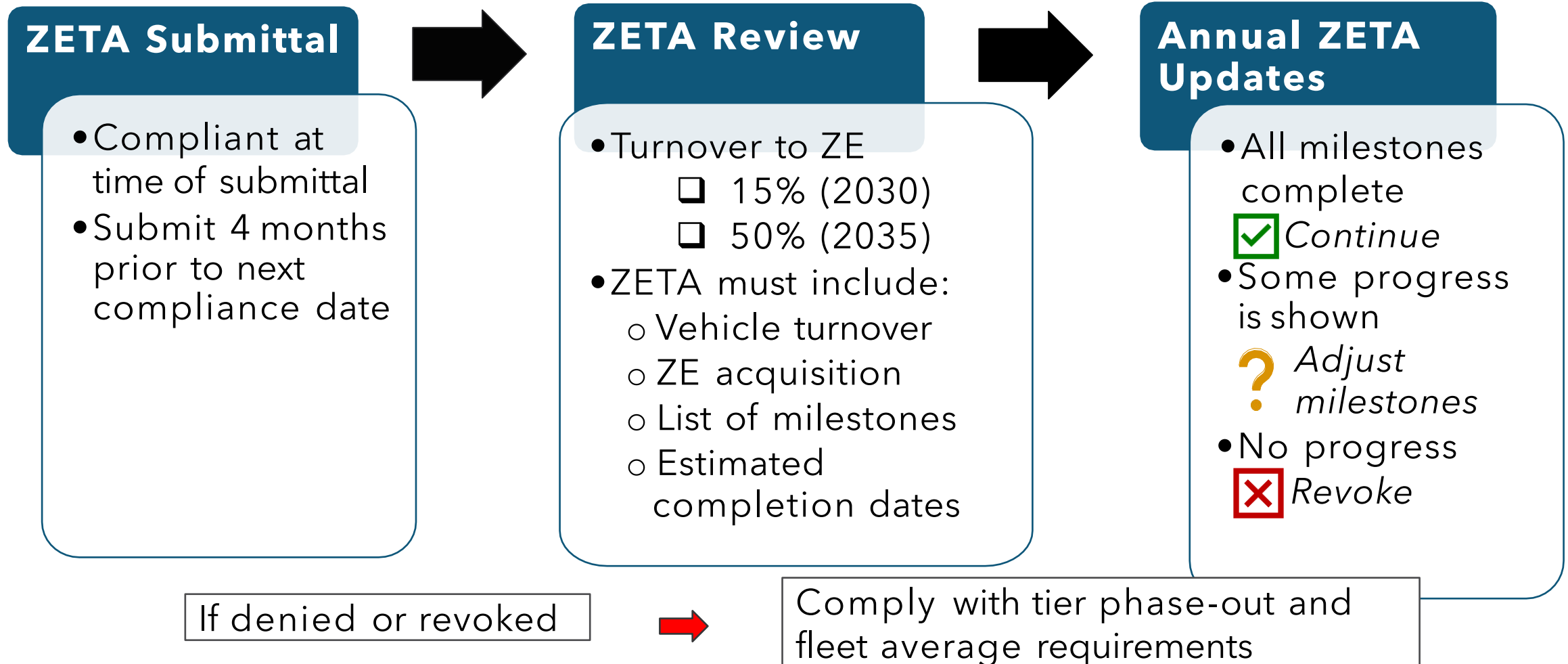
# Voluntary Zero-Emission Flexibility: Vehicle to Vehicle



**For each Zero-Emission (ZE) vehicle adopted, the fleet may continue to operate a Tier 1 or Tier 2 vehicle for two additional years beyond the phase-out years**

- Must perform work of a diesel equivalent
- Must be similar max power rating as the ICE vehicle
- Must report vehicle information to CARB

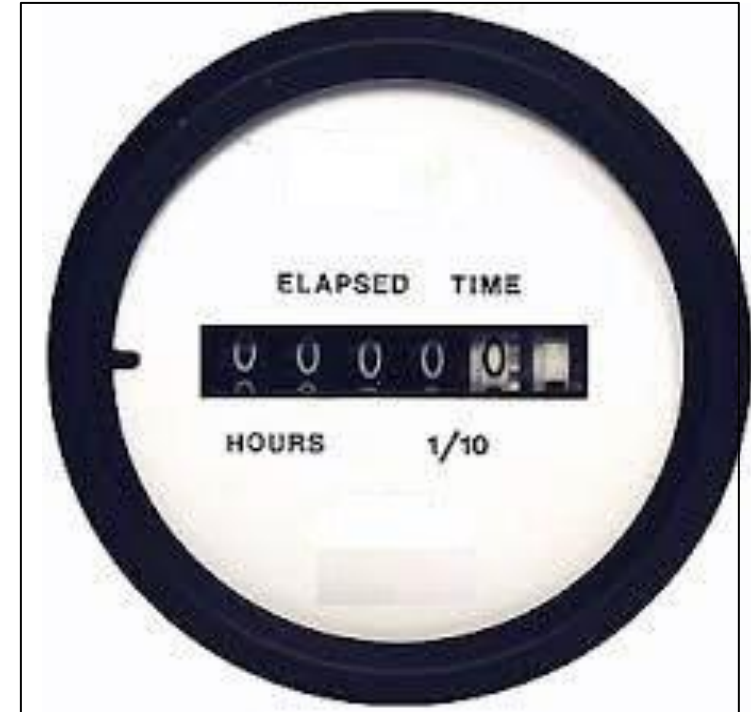
# Alternate Compliance Pathway through Zero-Emission Technology Application (ZETA)



# Changes to Low-Use

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- Year-by-year low-use expires January 1, 2024
- New reporting requirements for permanent low-use
  - Date stamped photo
  - Replaced/altered hour meter, notify CARB
- Three-year rolling average for permanent low-use
  - Average  $\leq 600$  hours of use over 3 consecutive years
- Low-use Tier 0 vehicles phase out January 1, 2036



# Other Amendments

## Emission Control Labels

If a fleet observes that the emission control label is no longer visible or readable, a new replacement label must be requested.

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## Carryover BACT credits

Provide additional flexibility by allowing fleets to generate credits after the final target date

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## Newly Reported Fleets

Must meet new fleet requirements

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# Funding Resources

- Clean Off-Road Equipment Voucher Incentive Project (CORE)

[www.californiacore.org](http://www.californiacore.org)

- Carl Moyer Program

[www.arb.ca.gov/our-work/programs/carl-moyer-memorial-air-quality-standards-attainment-program](http://www.arb.ca.gov/our-work/programs/carl-moyer-memorial-air-quality-standards-attainment-program)

- Local air district lookup

[www.arb.ca.gov/california-air-districts](http://www.arb.ca.gov/california-air-districts)



# Program Resources

- Off-Road Program Text:

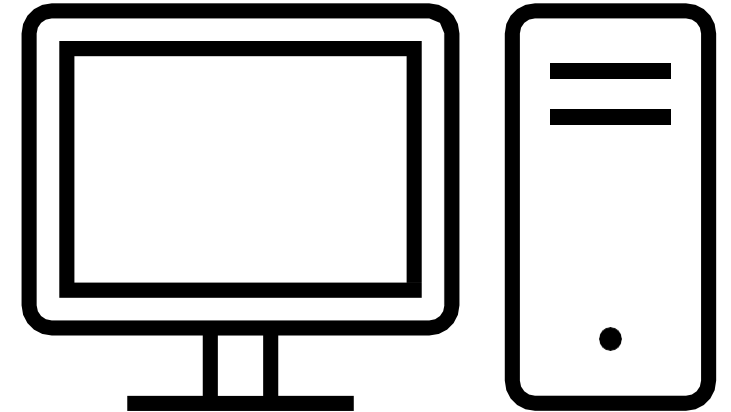
[https://ww2.arb.ca.gov/sites/default/files/barcu/re\\_gact/2022/off-roaddiesel/froa-1.pdf](https://ww2.arb.ca.gov/sites/default/files/barcu/re_gact/2022/off-roaddiesel/froa-1.pdf)

- Contractor site poster:

[https://ww2.arb.ca.gov/sites/default/files/2023-08/prime\\_contractor\\_signage.pdf](https://ww2.arb.ca.gov/sites/default/files/2023-08/prime_contractor_signage.pdf)

- Certificate Validation page:

[www.arb.ca.gov/doors/compliance\\_cert1.html](http://www.arb.ca.gov/doors/compliance_cert1.html)



# Contact, Information, and Assistance

- Off-Road Program Homepage:  
[www.arb.ca.gov/ordiesel](http://www.arb.ca.gov/ordiesel)
- Off-Road Zone  
<http://arb.ca.gov/offroadzone>
- DOORS Hotline and E-mail  
(877) 593-6677  
[doors@arb.ca.gov](mailto:doors@arb.ca.gov)

