



March 12, 2024

Jenna Latt, Manager
Off-Road Control Section
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Via email: tier5@arb.ca.gov

Healthy Air Groups Support a Strong Tier 5 Rule for Off-Road Engines

Dear Ms. Latt:

Our organizations write in support of the California Air Resources Board (CARB) amending Tier 4 off-road standards and setting new Tier 5 off-road equipment standards to bring similar health benefits as are offered with on-road emission controls. This 2022 State Implementation Plan (SIP) commitment to reduce emissions from these off-road engines is vital to state efforts to reduce diesel exhaust, criteria air pollutants, and greenhouse gases to improve air quality, reduce health disparities and address the effects of climate change.

The American Lung Association's "[State of the Air](#)" 2023 report found that six California cities rank among the 10 most polluted cities in the United States for ozone and for annual particle pollution. Over 90 percent of Californians live in an area with unhealthy air, and the state needs stronger emission standards to meet clean air and climate standards. Air pollution can impact the health of everyone, especially children, seniors, and individuals with pre-existing conditions causing asthma attacks, heart attacks, strokes, and cancer. In addition, off-road engines are a significant local source of diesel particulate matter, a toxic air contaminant known to increase the risk of cancer. CARB needs this rule to improve the health of communities in close proximity to construction and agricultural settings, where these types of equipment are used, and to reduce the effects of climate change.

CARB included the off-road standards in the [2022 Ozone SIP](#), noting that this commitment would reduce approximately 10.4 tons per day of oxides of nitrogen (NOx) by 2037 (the sixth largest NOx reduction opportunity identified). In response to concepts presented through the workshop process to date, we write to support and recommend the inclusion of the following elements in the formal rulemaking process:

- We support the establishment of new stringent greenhouse gas emission standards for this sector and reducing NOx emissions by at least 90% and particle emissions by at least 75% through more stringent standards and other control strategies including:
 - In-use screening and testing provisions to ensure engines do not emit beyond certified levels in real-world operations.

- We support manufacturer requirements for reporting on a minimum of 75 percent of the engine family performance data to CARB but urge CARB to evaluate more frequent in-use testing to determine if further portable emissions measurement system (PEMS) testing is warranted. Similar to the Clean Truck Check program development, more frequent testing could be used to more quickly identify issues with engines/families and take corrective action sooner.
- Low Load Cycle for certification to better control for more real-world emission conditions than are currently included.
- On-board diagnostics (OBD) to ensure identification and correction of emission control issues on off-road equipment.
- Idling controls (emission standards and shut-down concepts) given engine idling is a major source of in-use emissions for off-road equipment (as much as 50% of run time as noted in the October 2023 workshop).
- Updating useful life provisions, warranty and defects reporting requirements.
- We also urge CARB to include non-combustion, zero-emission technologies into this rulemaking where appropriate, to accelerate innovation in advance of future ZE-specific rules, and to align with Executive Order N-79-20 which calls for the “transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.”

Overall, it is time for high polluting sources, such as construction and agriculture equipment, to be held to similar emission controls and in-use standards as the on-road sector. We thank CARB staff for hosting multiple workshops and working on this rulemaking to reduce emissions from off-road equipment and ask you to move towards zero-emission technologies where possible in this and future rulemakings.

We look forward to seeing regulation language later this year and continuing to work with CARB staff and the Board on this issue. If you have any questions, please contact Mariela Ruacho at Mariela.Ruacho@Lung.org.

Sincerely,

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American Lung Association

Bill Magavern, Policy Director
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