The Honorable Mary Nichols
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

November 18, 2019

RE: Proposed Advanced Clean Trucks Regulation

Dear Chairman Nichols:

The undersigned organizations, representing multiple industries and many stakeholders, and are leaders in the effort to clean California's air and meet climate change goals, believe the California Air Resources Board (CARB) has a tremendous opportunity to address heavy-duty truck carbon and criteria air emissions by including both zero and low NOx truck strategies in the proposed Advanced Clean Trucks (ACT) Regulation. The Proposed ACT Regulation that has been released provides too narrow a path for success. We have outlined possible amendments in this letter and would like to work collaboratively with CARB to amend the proposed Regulation. Such a plan would achieve both immediate and long-term reductions in greenhouse gas (GHG) and NOx emissions in California's heavy-duty transportation sector and advance the state of heavy-duty zero emission technologies.

Like many stakeholders who want to see deeper penetration of the heavy-duty market by advanced clean trucks, we believe CARB should be innovatively bold in the ACT Regulation by including class 7 and 8 low NOx trucks that meet or beat a 0.02 g/bhp-hr NOx standard within the next 7 years AND use renewable fuel or renewable energy that reduces GHG emissions by 50% or more compared to diesel. By doing so, the ACT Regulation—rather than only impacting 15% of the class 7 and 8 sales market by 2030—could potentially achieve 25-50% market penetration as early as 2025 while overachieving the current projected emission reductions sought by the Regulation.

MARKET READINESS COUPLED WITH IMMEDIATE NEED

Heavy-duty low NOx trucks using renewable fuel are the most cost-effective way to address GHG and NOx emissions in this sector, especially in the near-term. Heavy-duty low NOx technologies are certified by CARB as 90 percent cleaner than diesel and available today to help achieve NOx and toxic emissions goals.[1] Additionally, when running on low carbon renewable fuels, lifecycle

[1] According to a 2017 study by University of California, Riverside College of Engineering Center for Environmental Research and Technology (CE-CERT), low NOx engines deliver in-use emissions that are 95 percent below the present diesel NOx certification standard.

GHG emissions are reduced substantially when compared to fossil diesel, including some "carbon negative" feedstocks. Such performance will only improve as California-sourced renewable fuels come online in the coming years thanks to CARB's forward-thinking policies.

Our state continues to suffer from the worst air quality in the nation and federal ozone deadlines are looming for the South Coast Air Quality Management District (SCAQMD), the San Joaquin Air Pollution Control District (SJAPCD), and at least seven other California air basins. These regions are ranked among the top ten worst air sheds in the nation for tropospheric ozone by the American Lung Association. The local air districts must reduce regional NOx emissions by up to 45% by January 1, 2023 or face federal regulatory and financial consequences in addition to the true public health impacts of poor air quality.

Further, both SCAQMD and SJAPCD have identified medium- and heavy-duty diesel trucks as the leading source of regional NOx pollution. Heavy-duty diesel trucks are also largely responsible for added air toxic emissions known by the state of California to cause cancer and reproductive harm[2]. Furthermore, heavy-duty trucks represent roughly 20% of all carbon emissions attributed to mobile sources. Low NOx vehicles meeting a 0.02 g/bhp-hr standard today are a readily available near-term solution which should not only be simply embraced, but promoted as an effective solution by regulators. Both SCAQMD and SJAPCD have called for additional low NOx heavy-duty trucks to help meet their goals. As currently proposed, this Regulation misses that opportunity and should be amended before becoming final.

PROPOSED ACT REGULATION – TOO NARROW A PATH FOR SUCCESS

We are concerned that the technology, timing and cost assumptions underlying the proposed ACT Regulation aren't adequately supported. As a result, the proposal, and its focus on zero emission vehicles (ZEVs), precludes the inclusion of other commercially available technologies that can contribute near-term to air quality and carbon reduction goals. The proposal assumes that not only will the cost of heavy-duty ZEVs significantly decrease over the next five years, but also that a viable class 8 ZEV tractor will be commercially available. The ability of heavy-duty ZEVs, currently in the pilot and development stages, to handle the performance requirements associated with hauling freight also remains unproven.

We have additional concerns specifically about the state's existing electrical infrastructure and its ability to address a broader deployment of ZEVs. While some funds have been dedicated to making upgrades, this remains a challenge for the state which has proven to be the case for battery-electric and hydrogen-powered buses that are required under CARB's Innovative Clean Transit rulemaking and will only be amplified by the current ACT proposal. Despite forecasts of lower overall costs, transit agencies like Foothill Transit that have been early adopters of ZEVs are finding that transitioning to zero emission strategies is far costlier than was projected by CARB in the ICT rulemaking. On average, it costs them $6.3 million[3] more annually over natural gas buses. Renewable fueled low NOx technology could deliver equivalent climate and air pollution benefits at a fraction of the cost.

[2] Such exposure can have meaningful impacts as demonstrated by the SCAQMD's Multiple Air Toxics Exposure Studies V (MATES)

[3] Foothill Transit, comment letter titled "Foothill Transit Comments - To Address Solicitation Concepts for Zero-Emission Buses and Supporting Infrastructure Deployment," November 6, 2019

PROPOSED AMENDMENTS - GREATER FLEXIBILITY NEEDED

We commend CARB for setting a high bar and pushing the transportation sector aggressively towards a cleaner future. To ensure that the proposed ACT Regulation achieves its goal of significant emissions reductions and a more comprehensive transformation toward advanced clean truck technologies, we suggest greater flexibility be provided in the event the bold and unproven assumptions fail to materialize at the speed that regulators predict. A policy which includes a combination of zero and low NOx heavy-duty trucks is needed and it would provide manufacturers with greater flexibility to meet CARB's desire to reduce the emissions inventory from this most polluting category within our transportation system.

We therefore strongly recommend expanding the regulation's potential market impact by including low NOx trucks that meet a 0.02 g/bhp-hr NOx certification standard or better for the first few years of the program leading up to the anticipated cleaner combustion engine mandate in or around 2027. We believe such an inclusion could allow for an accelerated compliance timeline, and increased compliance percentages, including the final percentage from 15% to 20%. This could occur by adding a partial credit for heavy-duty low NOx trucks.

This credit generation would continue to exist, allowing manufacturers to offset zero tailpipe vehicle manufacturing sales requirements, up until CARB implements a new heavy-duty emission standard for internal combustion engines that meets or exceeds a .02 g/bhp-hr NOx standard.

A NECESSARY BACKSTOP

Because low NOx trucks are immediately available, they are an excellent backstop for the ACT Regulation. If a heavy-duty ZEV is not a viable commercially available option in 2024 for a long-haul trucking fleet, rather than force a fleet to buy credits, why not provide them with a pathway to buy and operate a low NOx truck?

This low NOx pathway could be closed if and when it is determined that the heavy-duty ZEV market has adequately matured in cost, performance, infrastructure and availability metrics. Furthermore, this option could be limited to class 7 and 8 vehicles, thereby encouraging large-scale ZEV adoption in the vehicle classes that are most feasible while allowing low NOx technology to continue to compete in the heavy-duty market and continue to provide air quality improvements in the near-term.

LOW NOx DEFINITION INSUFFICIENT

The proposed ACT Regulation artificially restricts the definition of "near-zero" to only "plug-in hybrids with some all-electric range," purposely omitting low NOx vehicles. We believe low NOx trucks offer an opportunity to substantially reduce GHG and NOx emissions and we would like CARB to recognize these benefits. It is important to note the long history of low NOx vehicles being included verbally or in writing in the definition or "near zero," and it is not a view that is shared exclusively by our industry but also from regulators, legislators and stakeholders.

The California Legislature has enacted statutes—including SB 1204 and SB 1403—that clearly reflect the Legislature's intent that low NOx vehicles are considered "near zero." Also, regional air districts often refer to low NOx trucks that meet a 0.02g NOx standard as "near zero" (i.e., SCAQMD's indirect source rules), as well as state and regional air boards using it regularly. In addition, opponents to low NOx strategies commonly use "near zero" as a descriptor, it has been

used synonymously in many CARB and agency (California Energy Commission, SCAQMD) documents and by CARB members themselves in public meetings. The historical use has been established and the term generally accepted.

For example, the CARB "Sustainable Freight Pathways to Zero and Near-Zero Emission" document states several times that "we [CARB] anticipate that near-zero emission technologies and efficiencies will be capable of achieving a 90 percent reduction in NOx emissions and a 50 to 80 percent reduction in GHG emissions," which can only be achieved by the use of low NOx trucks. In fact, using the definition outlined in the proposed ACT Regulation would redefine what "near zero" means to the general public. Therefore, it is important that CARB define "near zero" thoughtfully and collaboratively with stakeholders through a separate and distinct public process.

FINAL THOUGHTS

Without the incorporation of immediately available low NOx trucks, the ACT Regulation will be a missed opportunity for CARB to improve air quality in California. Our proposed amendments to the proposed ACT Regulation would provide a component whereby low NOx engines can earn credits, while also providing flexibility to be responsive to the actual technological and economic realities that lie ahead, rather than be dependent upon uncertain forecasting assumptions. While the regulation as proposed could potentially deliver the needed relief, the inclusion of a low NOx pathway would guarantee it. Disadvantaged communities cannot afford to wait for cleaner air and must see this regulation succeed.

Though CARB's stated goal in the proposed regulation is zero-emission heavy-duty trucks, we suggest by adding low NOx trucks to the strategy, CARB would ensure deeper penetration of the state's heavy-duty fleets with advanced clean air technologies. Doing otherwise will leave diesel in charge of the heavy-duty sector for another decade.

Sincerely,

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