



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

August 19, 2020

Re: Omnibus Regulation: Changes Needed to Accelerate Use of Available Renewable Natural Gas and Propane Low NOx Trucks and Deliver Much Needed Near-Term Emissions Reductions

Dear Chair Nichols:

The 20 signatories to this letter appreciate the opportunity to comment on the proposed Heavy-Duty Engine and Vehicle Omnibus Regulation (Regulation). We have worked hard to contribute to near-term air quality through dedicated efforts to bring engines, fuels, and infrastructure to market today, and we want to constructively ensure the final Regulation is effective at reducing air pollutants that are putting disadvantaged communities at significant risk. The Regulation has been publicly described as a mechanism that will result in greater near-term (pre-2027) technology adoption and emission reductions; we do not believe this is the case. This letter summarizes our concerns, outlines apparent deficiencies, and suggests ways to improve the Regulation.

The ultimate emission target in the Regulation (0.02 g/bhp NOx) is already achieved in practice by renewable natural gas and propane operated low NOx fueled engines (current low NOx). Getting as

many low NOx engines on the road should be of paramount importance to the Board, particularly given that production volumes under the ACT Regulation will take over a decade. **The currently proposed Regulation does not incentivize early adoption of the cleanest technology** due to the additional regulatory burdens placed on the technology, coupled with the removal of incentive eligibility for those manufacturers that do take advantage of the Regulation's early crediting provisions.

The CARB fact sheet¹ released in support of this regulation confirms our concerns. Specifically, there isn't any mention of immediate emissions reductions. Nor is there any mention of the 2023 attainment deadline for the South Coast and San Joaquin Valley air districts. Rather, only the 2031 deadline is mentioned. While the fact sheet references 2024, it doesn't include any reference to near-term emissions benefits and doesn't provide context in terms of amount of new sales needed relative to attainment needs. The fact sheet confirms our concern that the Regulation will not effectively incentivize adoption of currently available lower emission technologies.

The lack of support for advancing near-term use of existing, proven low NOx engines is puzzling in view of the recently released Multi-State Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding (MOU) initiated by CARB and signed by 14 other states and the District of Columbia. The language of the MOU clearly stresses the near-term use of low-NOx heavy-duty trucks as follows:

"WHEREAS, electrification of the transportation sector is essential to achieve the GHG emission reductions needed to avoid the worst effects of climate change, and in conjunction with the introduction of low-NOx heavy duty trucks, to reduce harmful emissions of NOx, particulate matter, and toxic air contaminants that adversely impact public health";

We suggest the following changes in order to ensure near-term emissions reductions by increasing adoption of the cleanest heavy-duty technology in the marketplace today:

1. Low NOx trucks, like zero-emission vehicles (ZEVs) should not lose eligibility for state vehicle incentives or other incentive programs if they receive early sales credits;
2. The additional requirements for warranty, useful life, testing, etc. should not apply until the 0.02 standard applies across the entire sector in 2027;
3. Low NOx trucks should be able to continue to participate in incentive programs including, but not limited to, HVIP and/or a modernized and improved Carl Moyer Program, like all technologies that are not widely commercially available and which cannot yet compete with much cheaper diesel trucks; and
4. Staff should be directed to incorporate low NOx trucks as a compliance option in the upcoming ZEV fleet rule(s) in order to provide sufficient motivation for fleets to take substantial early action with currently available technologies.

These requests are consistent with the way the Regulation addresses ZEV technology. By having a separate standard, the Regulation actually disincentivizes the use of cleaner technology before 2027.

This Regulation could be a significant enhancement of CARB's efforts for near-term NOx reductions, but only if changes are made. Coupling this Regulation with continued incentives via HVIP and a

¹ "Facts about the Low NOx Heavy Duty Omnibus Regulation," California Air Resources Board, August 10, 2020

modernized Carl Moyer Program can improve the lives of California's most disadvantaged communities in the shortest timeframe. Additionally, low NOx vehicle strategies that meet a 0.02g/bhp-hr NOx standard today should be included in the upcoming medium- and heavy-duty fleet rules as a follow up to the Advanced Clean Truck Rule. Zero emission technology will eventually be market-ready and cost-competitive with today's low NOx trucks, but until that time, Californians breathing unclean air should not be subject to a delay in air quality improvements. Without a suite of incentives and regulations that promote the near-term implementation of low NOx technology, CARB will have failed its mission.

Diesel trucks are the single largest source of air pollution in California's two most polluted air districts. It is for that reason California is looking to this rulemaking to provide steep reductions in heavy-duty vehicle NOx emissions and deliver nearly half of the NOx emission reduction commitment in the entire CA SIP, 52 tons per day (tpd) out of 111 total tpd NOx in 2031. It is not surprising that Governor Newsom has publicly called for eliminating diesel usage from California's roads by 2030. Given that low NOx trucks are such a critical component of California's strategy to achieve California's air quality goals, attain the National Ambient Air Quality Standards, and protect the health and well-being of Californians, we believe it is imperative that heavy-duty vehicle technology policy should effectively incentivize the early adoption of low NOx trucks operated on low carbon renewable fuels now.

The time to act is now. California faces particularly extreme ozone attainment challenges in the South Coast and San Joaquin air basins. Further reduction of NOx emissions is critical for attaining federal ozone and PM2.5 standards."² The first major ozone deadline under the federal Clean Air Act is January 1, 2023, and yet the Staff Report focuses on the 2031 Ozone Standard as if the first deadline is non-existent. The changes discussed below can go a long way to aid in that goal.

Currently available, low NOx heavy-duty trucks remain one of the most cost-effective immediate remedies to the problems of NOx and greenhouse gas (GHG) emissions. Available low NOx trucks are currently certified by CARB as 90 percent cleaner than today's certified diesel and provide even greater in-use emission benefits than the latest diesel technology (note: newer diesel trucks actually emit at times 10 times above 2010 standards³). Given that the Regulation fails to provide meaningful rewards for manufacturers who already are producing low NOx technologies, it appears that the main goal of the Regulation appears to enable diesel technology to catch up with today's renewably fueled⁴ low NOx trucks that already are certified at 0.02g/bhp-hr NOx.

In today's heavy-duty truck marketplace, insufficient or ineffective incentives or policy drivers are significantly impairing any meaningful deployment of heavy-duty low NOx vehicles over the purchase of dirtier diesel trucks to meet the Truck & Bus deadline of 2023 (i.e. when fleet owners have a choice of how to replace the pre-2010 diesel trucks required to be removed from California's roads). Moreover, there is little incentive for manufacturers to bring more 0.02 certified vehicles to market prior to 2027. **This is confirmed by staff in this regulatory package: "...because diesels have the existing market share, diesel engine manufacturers have not been motivated to differentiate themselves on the basis of improved NOx emissions performance, like their CNG- and LPG-fueled**

² Page ES-17, Omnibus Regulation Initial Statement of Reasons, June 23, 2020

³ ES-5 measured real-world NOx emissions far exceed the emission standards to which heavy-duty engines are certified. in fact sometimes greater than ten times the standard.

⁴ When running on low carbon renewable fuels, lifecycle greenhouse gas emissions are reduced substantially when compared to diesel, including "carbon negative" for some feedstocks.

competitors.”⁵ We strongly believe that more cleaner low NOx trucks would be introduced into the market if incentives were more generous and easy to obtain. More clean trucks also would be purchased if regulatory authorities required fleets to purchase low NOx trucks.

CARB’s public meeting notice for the Regulation states, “The Proposed Heavy-Duty Engine and Vehicle Omnibus Regulation would implement two measures included within California’s Revised 2016 State Strategy for the State Implementation Plan, “Low-NOx Engine Standard” and “Lower In Use Emission Performance Level.” CARB also stated, “Additional actions in the proposed Mobile Source Strategy involve requirements to ensure in-use performance and the durability of emissions control equipment, as well as include incentives to accelerate the deployment of near-zero⁶ and zero-emission technologies.”⁷

With the 2016 Mobile Source Strategy calling for 900,000 low NOx trucks on California’s roads by 2030, the proposed Regulation will not come close to meeting this goal, while the documentation thus far released by CARB for the 2020 update to the Mobile Source Strategy does not include any reference to this goal. Put another way, **unless California starts requiring the purchase of low NOx trucks today, we will miss our near-term state and federal attainment goals, fall short of our 2031 state and federal attainment goals, and fall short of the Governor’s public goal of removing diesel trucks from California’s roads by 2030.**

We urge CARB to strongly consider the following observations and suggestions as you deliberate the proposed Omnibus regulation:

1. Last year, the Board sought to permanently eliminate low NOx trucks from the HVIP program. The Carl Moyer Program is currently cumbersome and is an ineffective incentive program. There is a lack of near-term inclusion of low NOx trucks in the Advanced Clean Trucks regulation and other recent regulatory decisions by CARB. **We are not aware of any regulatory or incentive mechanism that will effectively achieve near-term NOx reductions in the heavy-duty space** and we ask CARB staff to outline what, if any, policies in the current portfolio would convince or require a fleet to adopt a 0.02g low NOx strategy over purchasing a new or ten-year-old used diesel engine⁸.

This concern is valid, as stated by CARB staff in the ISOR for this Regulation, “Beginning in 2023, the NOx emission inventory is projected to be dominated by trucks with today’s 2010 technology engine. Beginning in 2023, because emissions from older trucks will have been greatly reduced, it therefore becomes increasingly important to reduce emissions from the newest trucks.”⁹ If the “newest trucks” that can be purchased in 2023 and beyond can still be diesel-fueled and thus emit ten times the NOx emissions of the low NOx trucks available today, it is incumbent on CARB to carefully consider the course corrections discussed below.

⁵ Page I-7, Omnibus Regulation Initial Statement of Reasons, June 23, 2020

⁶ “Near-zero” as used here is the historically used one equating to Low NOx technology.

⁷ Page II-2, Omnibus Regulation Initial Statement of Reasons, June 23, 2020

⁸ The Truck and Bus Regulation only requires the affected fleet owner to purchase a 2010 or newer diesel engine so 10 year old used diesel trucks can be purchased to replace some or all of the more than 300,000 diesel trucks affected by the 1/1/2023 deadline.

⁹ Page II-5, Omnibus Regulation Initial Statement of Reasons, June 23, 2020

The need for near-term strategies to meet federal attainment requirements is amplified by CARB staff's statement that: , "...even with the expected emission reductions, on-road heavy-duty vehicles are projected to remain one of the largest contributors to the state's NOx emissions inventory, and significant additional NOx reductions are needed from these sources in order to meet the federal ambient air quality standards for ozone."¹⁰

CARB staff has reiterated: "[The .02 NOx standard in the Omnibus regulation] is responsible for nearly half of the entire NOx emission reduction commitment in the entire plan, 52 tons per day (tpd) out of 111 total tpd NOx in 2031, and is therefore a critical component of California's strategy to achieve California's air quality goals, attain the National Ambient Air Quality Standards, and protect the health and well-being of Californians."¹¹

However, we do not believe the Regulation is in fact an early driver for low NOx truck adoption. Nor will it grow the low NOx truck market to meet the immediate air quality needs of the state for at least another decade. We believe the Regulation is a limited platform for promoting low NOx technology and highlights why incentive funding programs and fleet mandates are so critical. Even so, changes can be made to the Regulation that would incentivize additional sales of vehicles that are currently 90% cleaner than diesel.

2. The Omnibus Regulation is NOT scheduled go through the usual two-step CEQA process for adoption. This implies that CARB believes it is already covered by its SIP CEQA analysis adequately. This conclusion does not seem well supported, and calls into question whether any meaningful changes will occur to the Regulation as a result of the August Board meeting. Given that CARB has stated the Regulation is "one of three big policy pillars," there appears to be a major shortfall in the environmental analysis. Unfortunately, there was no outreach to the low NOx industries to solicit feedback on ways to improve the Regulatiuon prior to the release of the proposed June language. **Therefore, it will certainly take amendments by the Board at the August meeting to make this Regulation impactful in the near-term.**
3. CARB management has stated on numerous occasions that the early action credits are the incentives for early adoption within the Regulation, but in order to receive early credits with the "big multiplier" a manufacturer must sign up for additional and significant regulatory obligations and sacrifice its low NOx engine's access to the only existing market incentives available to help penetrate the market:
 - a. Specifically, the manufacturer must agree to additional (non-emissions) requirements for the 2024 model year and thereafter. Without taking on the additional liability risks, the sale does not qualify for the "incentive" credits. Therefore, if you do not sign up for the more robust in-use and durability testing prior to the 2024 model year you would get the minimal credit multiplier of 1.5 (per the table). These added requirements are not free. While the credits have "value" they must be seen in comparison to the other options for compliance. It very well may not be worth it for manufacturers to pursue the credits, thus rendering them valueless and providing no additional incentives to sell.

¹⁰ Page ES-2, Omnibus Regulation Initial Statement of Reasons, June 23,2020

¹¹ Page ES-2, Omnibus Regulation Initial Statement of Reasons, June 23, 2020

- b. ZEVs are able to double or even triple count on credits while low NOx trucks cannot, which is picking winners and losers and delaying air quality improvements: if credits are received for low NOx engines, that vehicle will lose eligibility for ANY incentive funding in other programs. However, CARB staff confirmed that ZEVs would obtain credit:

1. Under the Omnibus regulation through 2030;
2. Via the Advanced Clean Trucks regulation, which is “double counting,” and
3. They would still remain eligible for incentive funding which is “triple counting.”

This is unequal treatment with the picking of winners and losers by CARB between technologies and preventing free market decisions by truck owners. In addition, because ZEV heavy-duty trucks are not expected to be commercially ready for at least a decade, it disincentivizes the adoption of low NOx trucks which are readily available now. This unequal treatment will not address near-term NOx reductions, and won't allow the state to achieve attainment without significant truck turnover for the next decade.

4. Low NOx trucks should not be subject to the Regulation's additional warranty, testing, and other requirements until 2027 as a requirement to obtain credits. Credits should be generated with current technology as-is, especially since this technology was made available more than 10 years ahead of the Regulation's proposed required standard. These additional warranty, durability, and in-use testing requirements are not cost-free and can substantially erode the value of the credits earned. Deploying these technologies early onto California's roads and disadvantaged communities should be the focus for incentivizing 0.02 trucks today. So-called incentives that place a heavy burden on the lowest emission technology and strips it of state and local vehicle incentives is a misstep and backward. The additional costs associated with the new regulatory burden can remove the value of participation for manufacturers and fleets. As-is, **the value of the potential credit does not warrant the increased liability associated with having to adopt the more onerous future requirements. If the objective is to incentivize early actions, then all new regulatory burdens must be applied starting in 2027.**
5. CARB has failed to model or quantify how much near-term NOx emission reductions the Regulation will deliver, even though CARB has stated it will incentivize early production of low NOx engines prior to 2024 or 2027. This is a serious concern that should be addressed and vetted through the CEQA process. CARB has additionally stated in the Staff Report, “The California Legislature has placed the responsibility of controlling vehicular air pollution on CARB...[and] broadly authorize and require CARB to achieve the maximum feasible and cost-effective emission reductions from motor vehicles, including the adoption and implementation of vehicle emission standards and in-use performance standards.”¹²

This can be shown in the META model produced to support the 2020 Mobile Source Strategy. The chart below shows CARB's view that low NOx trucks are **not** going to be part of the solution in a business as usual scenario.

¹² Page II-4, Omnibus Regulation Initial Statement of Reasons, June 23, 2020

8. We also request that CARB perform an economic analysis on the failure to incentivize or mandate advanced clean truck technologies that are currently commercialized and how the failure of doing so may actually slow or eliminate progressive industry investment in advanced clean technology strategies prior to regulatory requirements.

In other words, if CARB continues to demonstrate a policy bias for a single technology outcome, CARB should fully acknowledge the real life-threatening risks that are associated with such a strategy. Specifically, history demonstrates that ZEV programs often experience delays, cost-barriers, technology advancement barriers, logistic barriers, energy delivery and infrastructure barriers, etc. and those potential risks should be provided to and considered by the Board so that it is fully aware of the potential public health consequences of failing to advance policies that deploy commercially available advanced lifesaving strategies today.

PROPOSED AMENDMENTS TO DRAFT LANGUAGE

At least nine regional air districts must meet federal and state attainment ozone goals, some as much as up to forty-five percent by January 1, 2023. Failure to meet these laws subjects many of California's regions to federal regulatory and financial consequences in addition to the true public health impacts of poor air quality which easily could reach into the billions of dollars. In other words, southern and central valley governments can find themselves losing local control over how their economies and development are run, which could further magnify the already damaging impacts of COVID-19.

Based on our experience and citations herein, the proposed Omnibus Regulation will NOT drive early low NOx truck adoption. Worse, the Regulation will ironically delay the deployment of lifesaving low NOx strategies into California's disadvantaged communities that are available today because the rule is silent on any fleet requirements and lacks any workable incentive to encourage immediate adoption of available technology.

In light of the huge disconnect between what is proposed and what should be adopted, we again recommend the following suggested changes:

1. Low NOx trucks, like zero-emission vehicles (ZEVs) should not lose eligibility for state vehicle incentive eligibility or other incentive programs if they receive early sales credits;
2. The additional requirements for warranty, useful life, testing, etc. should not apply until the 0.02 standard applies across the entire sector in 2027;
3. Low NOx trucks should be able to continue to participate in incentive programs including, but not limited to, HVIP and/or a modernized and improved Carl Moyer Program, like all technologies that are not widely commercially available and which cannot yet compete with much cheaper diesel trucks;
4. Staff should be directed to incorporate low NOx trucks as a compliance option in the upcoming ZEV fleet rule(s) in order to provide sufficient motivation for fleets to take substantial early action with currently available technologies.

Effective regulatory programs and additional incentive dollars in the near term for low NOx trucks will increase the rate of deployment, bring it closer to true commercialization, and deliver an immediate improvement to local air quality and climate change. We do not believe the Omnibus regulation, as currently proposed, will achieve any of these goals.

Sincerely,

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