ENVIRONMENTAL PROTECTION

AIR, ENERGY, AND MATERIALS SUSTAINABILITY

DIVISION OF AIR QUALITY

Model Year 2027 or Later Heavy-Duty New Engine and Vehicle Standards and Requirements; Diesel Vehicle Inspection Tests and Procedures

Adopted Amendments: N.J.A.C. 7:27-14.1, 14.5, 15.1, 15.3, and 15.7; and 7:27A-3.10

Adopted New Rules: N.J.A.C. 7:27-28A

Adopted Repeals: N.J.A.C. 7:27-14 Appendix and 7:27-28

Proposed: November 7, 2022, at 54 N.J.R. 2007(a).

Adopted: April 21, 2023, by Shawn M. LaTourette, Commissioner, Department of Environmental Protection.

Filed: April 21, 2023, as R.2023 d.066, **with non-substantial changes** not requiring additional public notice and comment (see N.J.A.C. 1:30-6.3).

Authority: N.J.S.A. 13:1B-3(e), 13:1D-9, 26:2C-1 et seq., particularly 26:2C-8.1, 26:2C-8.15 et seq., and 39:8-2 and 61.

DEP Docket Number: 07-22-10.

Effective Date: May 15, 2023.

Operative Date: June 20, 2023, in accordance with N.J.S.A. 26:2C-8.a.

Expiration Dates: Exempt, N.J.A.C. 7:27-14.1, 14.5, 15.1, 15.3, 15.7, and 7:27-28A

January 22, 2027, N.J.A.C. 7:27A.

This rulemaking will enable the State to reduce emissions, including oxides of nitrogen (NO_x) and particulate matter (PM), from heavy-duty vehicles, by adopting California's emission

standards for these vehicles by incorporating by reference California's "Amendments to the Exhaust Emissions Standards and Test Procedures for 2024 and Subsequent Model Year Heavy-Duty Engines and Vehicles, Heavy-Duty On-Board Diagnostic System Requirements, Heavy-Duty In-Use Testing Program, Emissions Warranty Period and Useful Life Requirements, Emissions Warranty Information and Reporting Requirements, and Corrective Action Procedures, In-Use Emissions Data Reporting Requirements, and Phase 2 Heavy-Duty Greenhouse Gas Regulations, and Powertrain Test Procedures" (Low NO_x Omnibus rules). In addition, this rulemaking will: (1) repeal N.J.A.C. 7:27-28, Heavy-Duty Diesel New Engine Standards and Requirements Program, to avoid any confusion about the applicable standards; (2) ensure that all heavy-duty vehicles are subject to the same emission inspection procedures and standards; (3) amend certain provisions at N.J.A.C. 7:27-14, Control and Prohibition of Air Pollution from Diesel-Powered Motor Vehicles, and 15, Control and Prohibition of Air Pollution from Gasoline-Powered Motor Vehicles, for clarity and consistency; and (4) clarify that certain violations of N.J.A.C. 7:27-14 and 15 may be penalized pursuant to proposed new provisions at N.J.A.C. 7:27A-3. New Jersey is in nonattainment for the Federal ozone national ambient air quality standard (NAAQS) and must continue to reduce NO_x emissions Statewide to attain, and maintain, the ozone NAAQS. Moreover, the Department of Environmental Protection (Department) expects that the reduction in NO_x, PM, and other emissions that results from the adopted rules will improve New Jersey's overall air quality and particularly benefit local communities that are disproportionately impacted by heavy truck traffic, including some overburdened communities, as defined at N.J.S.A. 13:1D-158.

Summary of Hearing Officer's Recommendation and Agency's Response:

The Department held a virtual public hearing on this rulemaking on December 8, 2022, at 9:30 A.M., through the Department's video conferencing software, Microsoft Teams. Peg Hanna, Assistant Director for the Division of Air Quality, served as hearing officer. Eight people provided oral comments at the public hearing. After reviewing the written and oral comments received during the public comment period, the hearing officer recommended that the Department adopt the proposed rulemaking with the modifications described below in the responses to comments and in the Summary of Agency-Initiated Changes. The Department accepts the hearing officer's recommendations.

A record of the public hearing is available for inspection, in accordance with applicable law by contacting:

Department of Environmental Protection

Office of Legal Affairs

401 East State Street, 7th Floor

Mail Code 401-04L

PO Box 402

Trenton, New Jersey 08625-0402

This notice of adoption document can also be viewed or downloaded from the Department's website at http://www.nj.gov/dep/rules/adoptions.html.

Summary of Public Comments and Agency Responses:

The Department accepted comments on the notice of proposal through January 6, 2023.

The following individuals provided timely written and/or oral comments:

1. Francine Allen
2. Wayne Augenstein
3. Mary Barber, Environmental Defense Fund
4. Jordan Brinn, Natural Resources Defense Council
5. Theodore Chase
6. Debra Coyle, New Jersey Work Environment Council
7. Marc Dragish
8. Timothy French, Truck & Engine Manufacturers Association
9. Kim Gaddy and Nicky Sheats, Coalition for Healthy Ports
10. Amy Goldsmith, Clean Water Action
11. Stanislav Jaracz, New Jersey Electric Vehicle Association
12. TD Kearns
13. Larissa Koehler, Environmental Defense Fund
14. James Lee
15. Ted Lee
16. Denise Lytle
17. Doug O'Malley, Environment New Jersey
18. Doug O'Malley, Jersey Renews
19. Marlene Oslick

20. David Pringle, Clean Water Action

21. Anjuli Ramos-Busot, Sierra Club, NJ Chapter

22. Dan Rodriguez, Bus Association of New Jersey

23. Nicky Sheats, Coalition for Healthy Ports NY/NJ, and signing on in agreement with the comments: Eric Miller, Natural Resource Defense Council and Paulina Muratore, Union of Concerned Scientists

24. Nicky Sheats, New Jersey Environmental Justice Alliance and Ironbound Community Corporation, which also incorporates by reference the comments submitted by the Coalition for Healthy Ports

25. Kevin Shen, Union of Concerned Scientists

26. Amanda Sherman, Department of Defense

27. Jackie Yeager, Cummins Inc.

The comments received and the Department's responses are summarized below. The number(s) in parentheses after each comment identify the respective commenter(s) listed above.

Request for Extension of Comment Period

1. COMMENT: Please extend the comment period, if possible. (9)

RESPONSE: The Department provided a 60-day public comment period as part of the notice of proposal, which began upon publication of the notice of proposal in the November 7, 2022, New Jersey Register. See 54 N.J.R. 2007(a). The 60-day comment period met the requirement of the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. (APA). In addition to publication of the notice of proposal, the Department provided additional notice of the rulemaking on November 7,

2022, by posting on its website, to media outlets maintaining a press office to cover the State House Complex and other media outlets throughout the State, and by notice sent to the Department's rulemaking and permitting email lists. Prior to publication of the notice of proposal, the Department conducted stakeholder outreach meetings on September 10, 2020, and December 21, 2021. During these sessions, the Department notified stakeholders that it was considering a rule proposal to establish more stringent NO_x emissions standards for new heavy-duty engines and vehicles. On December 8, 2022, the Department held a public hearing at which approximately eight people testified. Upon the publication of the notice of proposal and the conclusion of the public hearing, more than 20 individuals and organizations submitted written and verbal comments, which are summarized and addressed in this notice of adoption. Given the volume of comments submitted in response to the notice of proposal within the 60-day comment period, the Department believes that there was ample opportunity to provide comments and discuss the rulemaking. Therefore, an additional period for public comment would be unlikely to result in the Department receiving comments relevant to the proposed rules that raise issues or provide new information, data, or findings that were not previously raised or provided during the development of the proposed rules or during the 60-day comment period.

General Support

2. COMMENT: The Model Year 2027 or Later Heavy-Duty New Engine and Vehicle Standards and Requirements, as well as the Diesel Vehicle Inspection Tests and Procedures rules (Heavy-Duty Vehicle rules), should be adopted because they will complement the work currently underway by the Advanced Clean Trucks (ACT) rules adopted in 2022, which accelerate the

sales of zero emission heavy-duty vehicles. The Heavy-Duty Vehicle rules are critical to reducing emissions in New Jersey's transportation sector. Medium- and heavy-duty trucks account for 24 percent of total U.S. transportation sector emissions. Air pollution levels are highest in areas adjacent to major roadways or facilities with significant vehicle volumes, like ports and rail yards and in environmental justice (EJ) areas. NO_x emissions contribute to smog or ground-level ozone and secondary PM, which, along with primary PM emissions, are associated with increased risk of premature deaths, hospitalization, and emergency room visits. Cutting NO_x and PM emissions from trucking is vital for improving public health and meeting the Federal National Ambient Air Quality Standards. The Heavy-Duty Vehicle rules will target the emissions of those diesel and gasoline trucks that are still on the road and hold them to the most stringent standards while we transition to the electrification of our heavy-duty sector. While the ACT Rule works year-over-year to gradually increase the share of new zero-emissions truck sales, the Heavy-Duty Vehicle rules curtail toxic air pollution from new diesel vehicles that will continue to be sold in the interim. Together, these rules will reduce toxic air pollution that harm human health and disproportionately impact historically marginalized communities and these rules will meaningfully reduce damaging emissions in New Jersey. (21)

3. COMMENT: The Department should adopt the Heavy-Duty Vehicle rules. When combined with the ACT rules, the value of these rules is greater than the U.S. Environmental Protection Agency's (EPA's) rules. (20)

4. COMMENT: The Heavy-Duty Vehicle rules curtail toxic air pollution from new fossil fuel vehicles that will continue to make up the bulk of the vehicles sold as the ACT rules phase in electric heavy-duty vehicles. To provide fleets and drivers more durable vehicles and ensure

significant health and harm reduction in the most impacted communities, the Heavy-Duty Vehicle rules should be adopted as soon as possible. (4)

5. COMMENT: Air pollution has devastating impacts for the heart, lungs, and the rest of the human body. The Heavy-Duty Vehicle rules are designed to maximize the benefits of diesel truck emission technologies in tandem with the ACT rules. The Heavy-Duty Vehicle rules should be adopted because they will dramatically reduce emissions from the most polluting diesel engines in the State – a state that has the second highest health effects from dirty diesel in the country. (25)

6. COMMENT: The Heavy-Duty Vehicle rules should be adopted to reduce the amount of air pollution in New Jersey for our children and grandchildren. (15)

7. COMMENT: These Heavy-Duty Vehicle rules are needed to reduce air pollution from trucks. New Jersey must also make sure that inspections are removing trucks that do not meet emission standards from the State's roads. (14)

8. COMMENT: Heavy-duty trucks are significant contributors to New Jersey's air pollution. They produce substantial quantities of dangerous NO_x and diesel particulate emissions. Longer exposure to elevated concentrations of NO_x emissions may contribute to the development of asthma, and nitrous oxides react with other chemicals to form particulate matter and ozone. The Department should adopt the Heavy-Duty Vehicle rules to strengthen emissions standards for heavy-duty vehicles. (2, 7, 12, 16, and 19)

9. COMMENT: CARB's Low NO_x Omnibus rule should be adopted as quickly as possible in conjunction with complementary policies and strengthening of the proposed regulation. Specifically, the rules should be adopted within a framework of moving forward on the ACT

rules, as well as the proposed revised straw proposal from the Board of Public Utilities (BPU) on medium- and heavy-duty vehicle electrification charging infrastructure and its proposed investment in charging infrastructure in overburdened urban communities. New Jersey needs to electrify its truck fleet through the ACT rules, but during the transition to electrification, New Jersey needs to reduce toxic particulate matter pollution from new diesel vehicles as much as possible. The proposed rulemaking will reduce toxic air pollution to ensure that medium- and heavy-duty trucks will be subject to the most stringent emission standards that are technically feasible for NO_x and PM. The rulemaking will ensure that all heavy-duty vehicles are subject to the same emission inspection procedures and standards, amend the definition of gross vehicle weight rating, and constitute a revision to New Jersey's State Implementation Plan (SIP) for the attainment and maintenance of the National Ambient Air Quality Standards for ground level ozone. There is a clear public health benefit to cleaning up the truck pollution that harms the air quality of the State's urban neighborhoods. (18)

10. COMMENT: The Department should adopt the Heavy-Duty Vehicle rules that, in conjunction with the ACT rules, will significantly reduce emissions. This will lead to public health benefits, such as fewer premature deaths and asthma attacks. (17)

11. COMMENT: The Department should adopt the Heavy-Duty Vehicle rules because these rules will require truck emission levels for NO_x to be up to 90 percent lower than the current standards starting in 2027, prevent backsliding of particulate matter levels with the improvement of NO_x emissions; address emissions during use when emissions typically rise (that is, idling, low load use), and extend the emission control warranty, so that emission controls are required to be more effective over a longer period and emission standards hold up over time. These rules

have tremendous value in reducing diesel pollution in the future with already proven technologies. (10)

12. COMMENT: Tailpipe pollution from cars, trucks, and buses is a leading source of harmful air pollution in New Jersey. Each year, vehicles on New Jersey's roads release tons of smog-forming pollutants and particulate matter, which have been linked to increased illness and death, primarily from heart and lung diseases. The Heavy-Duty Vehicle rules will reduce emissions from new fossil fuel medium- and heavy-duty vehicles that continue to be sold, requiring manufacturers of internal combustion engine trucks to reduce emissions of smog-forming pollutants by 90 percent, starting in model year 2027, and work in tandem with the ACT rules to send a clear market signal around which industry, government, and other stakeholders can plan and mobilize investments. The Heavy-Duty Vehicle rules make much-needed reforms, such as strengthening NO_x and PM emission standards for new fossil fuel trucks, introducing a new NO_x standard for a low-load certification cycle, extending manufacturer warranties, and improving in-use testing to better align with actual operations and global standards. The public health benefits from these emissions reductions are also substantial. Swiftly finalizing the Heavy-Duty Vehicle rules is an important step for New Jersey to address medium- and heavy-duty vehicle emissions and is a necessary complement to the State's ACT rules. (23)

13. COMMENT: New Jersey should adopt California's Low NO_x Omnibus rule because the air pollution emitted by heavy-duty vehicles is a significant public health hazard to New Jersey communities, including environmental justice communities. It appears that a fully adopted Low NO_x Omnibus rule would result in a general reduction in emissions from heavy-duty trucks and buses. (24)

14. COMMENT: Tailpipe emissions from medium- and heavy-duty vehicles are a public health menace that cause widespread harm in New Jersey. Medium- and heavy-duty vehicles are responsible for an outsized portion of harmful, localized pollution from the transportation sector. Allowing transportation and freight to continue with the status quo will have a detrimental and significant impact on health in communities, particularly those near highways and other major sources of transportation pollution. Conventionally powered vehicles will be on the roads for some years in the future; to protect public health in vulnerable communities, it will be imperative that the State address the tailpipe emissions from new fossil fuel heavy-duty trucks and buses. The Heavy-Duty Vehicle rules and the recently adopted ACT rules complement one another. Both regulations advance cleaner vehicle technology while addressing the pressing need for cleaner air in communities suffering from dangerous pollution levels. Adopting the Heavy-Duty Vehicle rules is a critical way to ensure that new fossil fuel-powered vehicles emit less harmful pollution as New Jersey adopts zero-emissions solutions. (3)

15. COMMENT: It is critically important for New Jersey to carve a pathway for a transition to zero-emission trucks and buses as it does with the ACT rules. However, there remains a need to clean up the new diesel vehicles that will be put in service in the intervening time. For New Jerseyans who live near highways, warehouses, and other high-truck traffic areas, reducing diesel truck exhausts can literally be a matter of life and death — a stark demonstration of the imperative nature of the Heavy-Duty Vehicle rules and other measures. (13)

RESPONSE TO COMMENTS 2 THROUGH 15: The Department acknowledges the commenters' support for the adopted rules.

Requests for Clarification and Modification upon Adoption

Military and Emergency Vehicles

16. COMMENT: Pursuant to 42 U.S.C. § 7543 (Clean Air Act § 209), states that seek to adopt California's standards shall adopt the California standards in their entirety. Accordingly, all exemptions set forth in the California standards should be incorporated by reference in this rulemaking. At 13 CCR Section 1905, Exclusion and Exemption for Military Tactical Vehicles and Equipment, the California rules provide an exemption for military tactical vehicles. This particular exemption exempts military tactical vehicles and equipment from California motor vehicle emission control standards and requirements and goes beyond the exemption from idling prohibitions at 13 CCR Section 1956.8 at paragraph (a)(6)(B). The Department should modify Table 1 at Subchapter N.J.A.C. 7:27-28A.11 to include 13 CCR Section 1905 in the list of CCRs incorporated by reference. This would be consistent with California's rules governing emission control standards and requirements for heavy-duty vehicles as they pertain to military tactical vehicles and would make New Jersey's regulations consistent with Clean Air Act § 209. Also, for clarity, the Department should amend proposed N.J.A.C. 7:27-28A.5 to include an explicit exemption for military tactical vehicles to ensure consistency throughout the regulations and to prevent confusion as to the regulations' applicability to military tactical vehicles. (26)

17. COMMENT: Emergency vehicles in California are exempt from California motor vehicle pollution control requirements; for example, see California Vehicle Code 27156.2 and 27156.3. The Department should make a change upon adoption to include an exemption at N.J.A.C. 7:27-28A.5. This would also be consistent with the existing regulation at N.J.A.C. 7:27-28.4. (27)

RESPONSE TO COMMENTS 16 AND 17: The Department did not intentionally omit these provisions of the California Vehicle Code and California Code of Regulations from the proposed rulemaking. As the Department stated in the notice of proposal, 54 N.J.R. 2007(a), 2009, the Department's intention is to establish heavy-duty vehicle emission standards that are identical to California's for vehicles of the same model year and weight class. See also adopted N.J.A.C. 7:27-28A.11, which refers to the identicality requirements of the Clean Air Act, 42 U.S.C. § 7507. For purposes of identicality, therefore, the Department is modifying N.J.A.C. 7:27-28A.5, Exemptions, upon adoption to include specific prohibitions of both California's Code of Regulations and Vehicle Code, which specifically exempt emergency vehicles and military tactical vehicles, respectively. The Department is making corresponding changes upon adoption at N.J.A.C. 7:27-28A.11, Incorporation by reference, to include the California Vehicle Code and California Code of Regulation provisions that exempt both military tactical vehicles and emergency vehicles.

Buses

18. COMMENT: At N.J.A.C. 7:27-28A.11(f)7, the Department proposes to adopt CARB's exemption process for new diesel-fueled buses sold to transit agencies, with some New Jersey-specific revisions to remove conditions not applicable in New Jersey, such as compliance with CARB's Innovative Clean Transit requirements. While the New Jersey-specific revisions are helpful, the Department could further streamline the process by following the precedent set by Oregon by exempting engines in new diesel-fueled buses sold to a transit agency from meeting CARB requirements and allowing EPA-certified engines without a request and approval process

(see OAR 340-261-0060(2). This would also be consistent with the existing regulation at N.J.A.C. 7:27-28.4. (27)

19. COMMENT: While the Department's proposed rulemaking includes an exemption procedure for Model Year 2027 or later diesel-fueled urban bus engines if compliant engines or vehicles are unattainable, the exemption appears to be limited to "transit agencies." Thus, private providers of transportation could not apply. Moreover, the exemption process contemplated is administratively burdensome and is keyed to a timetable that might not match an individual bus company's purchasing schedule. The administrative research and paperwork requirements are particularly challenging to private carriers, who are without resources to research each manufacturer's compliance with emission standards. Therefore, the Department should modify the rules upon adoption to include an automatic exemption for private providers of public transportation when they are unable to acquire compliant vehicles. If necessary to ensure regulators that compliant vehicles are unavailable, that automatic exemption could be triggered when NJ Transit has received an exemption for the same circumstances. (22)

20. COMMENT: Unlike NJ Transit, private bus carriers, in general, receive no operating subsidies. Costs must come from the farebox. That means that private bus carriers who operate commuter bus lines at their own risk are able to sustain those routes only if the farebox revenues exceed their costs. Depending on the costs involved, it is conceivable that these new regulations could make the difference between a carrier continuing to operate or suspending routes that cannot be operated profitably. For these reasons, the Heavy-Duty Vehicle rules should be modified upon adoption to afford a waiver to private bus companies that can demonstrate that purchasing and operating the vehicles in question is cost prohibitive. (22)

21. COMMENT: The Department should adopt California's Low NO_x Omnibus rule, but these standards and their associated exemptions must be tailored to New Jersey's unique policy environment. In the notice of proposal Summary, the Department proposed the exemptions outlined in California's Low NO_x Omnibus rule, which provided an exemption for new, diesel-powered transit buses sold to any public transit agencies, but with its own revised conditions. New Jersey law sets goals for transit bus electrification: 10 percent of new buses by 2025, 50 percent by 2027, and 100 percent by 2033. This is not equivalent to the Innovative Clean Transit (ICT) program, which applies to all transit agencies, sets reporting requirements, and has a later timeline for a complete electrification of transit fleets, rather than the New Jersey requirement, which only refers to sales. The revised conditions are adequate to address intermediate transit bus purchases, provided a fleet can demonstrate that the conditions under which it originally received an exemption continue to remain true, preferably through regular, public reporting. (3) RESPONSE TO COMMENTS 18, 19, 20, AND 21: As explained in the notice of proposal Summary, CARB included an exemption for diesel-fueled urban bus engines and vehicles sold to transit agencies. 54 N.J.R. at 2013. The exemption was based on a very specific circumstance: the primary manufacturer of diesel-fueled urban bus engines indicated that it would not produce diesel-fueled urban bus engines compliant with California-specific emission standards beginning in MY 2024. *Ibid*. As California and New Jersey have different legislative goals concerning the electrification of the bus fleets run by their respective transit agencies, the Department's intent was to tailor the California exemption to New Jersey-specific circumstances. 54 N.J.R. at 2014. Accordingly, the proposed rules included a requirement for a transit agency to apply for the exemption, which would be conditioned upon the transit agency's demonstration that there are

no diesel-fueled medium heavy-duty or heavy heavy-duty engines used in urban buses certified by California to meet the exhaust emission standards for the model year in which the transit agency intends to make the purchase. *Ibid.*

The Department concurs that because the exemption is based on unavailability, it would be appropriate to expand the exemption applicability to all operators of urban transit buses, whether public or private, since New Jersey Transit may contract with private bus companies to cover certain local routes. Upon adoption, the Department is modifying the rules to define the terms "bus company" and "transit agency" to distinguish between private entities operating buses and buses operated by a transit agency (public). Further, N.J.A.C. 7:27-28.11(f)7 is modified upon adoption to clarify that bus companies and transit agencies will be eligible to apply for the waiver when purchasing an urban bus. Finally, the Department is adding a definition of "urban bus" upon adoption to refer to the definition of "urban bus" in the California Code of Regulations to maintain consistency.

The Department does not agree that the exemption process is overly burdensome and should be streamlined. Urban buses, as defined in California's regulations, often operate in environmental justice communities, and it is important that the cleanest available engines be used in those applications. Thus, the administrative process for the exemption requires each urban bus fleet operator to continue to re-evaluate engine availability and its purchasing needs, and when necessary, demonstrate that the operator is buying the cleanest available engines.

Although the Department will not produce a public report detailing requests for an exemption, a request by a transit agency or private bus company for an exemption is public

information, unless an owner or operator makes a successful request for confidentiality pursuant to N.J.A.C. 7:27-1.

Averaging, Banking, and Trading

22. COMMENT: The Department should clarify, upon adoption, how a manufacturer would implement Federal Averaging, Banking, and Trading (ABT) for CARB-certified engines sold in New Jersey, since the EPA's regulations for ABT do not allow manufacturers to count engines certified to a state's emission standards that are different from the Federal standards. See 40 CFR 1036.801. (27)

23. COMMENT: As proposed, the rules would rely on the Federal crediting system program for accounting. This is a departure from what other Section 177 states have done. Upon adoption, the Department should clarify how the Federal program will be used, since there are different stringency levels that exist between the State and national standards. (4)

24. COMMENT: The Department proposes to use the Federal ABT system, which is inconsistent with other Section 177 states, such as Massachusetts. Using the Federal ABT system would hinder compliance and allow for an accumulation of surplus Federal credits that could reverse some of the benefits of the rules. This provision of the rules needs a second look. (25)

25. COMMENT: It is critical for the Department to reexamine the credit system to ensure that the State sees an absolute reduction in emissions. (17)

RESPONSE TO COMMENTS 22, 23, 24, AND 25: The notice of proposal indicated that manufacturers selling engines and vehicles in New Jersey should continue to bank credits through the Federal ABT program. See 54 N.J.R. at 2023. However, the Department

acknowledges that it will need to develop an independent, New Jersey-specific ABT program. Accordingly, the Department anticipates that it will establish a New Jersey-specific ABT program in a future rulemaking. This anticipated program will be based on the California ABT program, the provisions of which were included in the collection of California rule provisions the Department proposed to incorporate by reference. The Department's intent is to develop a State-specific ABT program that is consistent with, to the greatest extent possible, the reporting and additional administrative requirements of other states that have adopted CARB's Low NO_x Omnibus rule.

Adopt These Rules, but the Department Should Do More

Targeted Actions, Rules, and Policies

26. COMMENT: The Heavy-Duty Vehicle rules should be adopted, but, just as with the previously enacted ACT rules, the State should develop and adopt strategies, rules, and laws that will guarantee that air pollution emissions reductions from heavy-duty vehicles occur in New Jersey environmental justice (EJ) communities (that is, communities of color and communities with low-income). Numerous studies have found that communities of color and communities with low-income are disproportionately exposed to air pollution. The Department should develop a policy mechanism that ensures the reductions yielded in heavy-duty vehicle-related air pollution by the Heavy-Duty Vehicle rules occur in EJ communities that desperately need these reductions. Mechanisms should be included in all environmental policy that guarantee EJ communities, along with other communities, will realize the benefits produced by environmental policy. The Department could guarantee that the proposed rules produce emission reduction in

EJ communities using specific strategies. For example, trucking companies based in EJ communities, or whose fleet of trucks conduct a significant amount of business in EJ communities, should be required to use the portion of their fleet that is composed of zero-emission vehicles in those communities. Another example would be to allow only zero-emission heavy-duty vehicles in EJ communities or allow only heavy-duty vehicles that meet the emissions standards contained in the proposed rules to operate in EJ communities. In addition, the Department should develop an EJ community centered indirect source rule. As currently constructed, the proposed rules take no specific steps to ensure emissions reduction in EJ, urban, or overburdened communities. (24)

27. COMMENT: Cleaning up truck emissions is long overdue for the communities living adjacent to freeways, ports, and freight hubs that disproportionately suffer from harmful air pollution. Many of these communities, which are predominantly communities of color and low-income, see upwards of 1,000 diesel trucks passing through per hour. People who live, work, or go to school near such areas have an increased incidence and severity of health problems such as asthma, cardiovascular disease, childhood leukemia, and premature death.

We urge the Department to continue to prioritize communities overburdened with pollution and focus on the pollution reduction mechanisms that will get cleaner air for these communities as soon as possible. A logical step is to focus on the communities that are intertwined with industrial sectors in our State, like the ports. (21)

28. COMMENT: Adopting the Heavy-Duty Vehicle rules is critical, but alone the rules will not remove the oldest and dirtiest vehicles from the road nor prevent them from operating at the port, along logistics corridors, and in EJ communities. Residents living near the Port of New York and

New Jersey are exposed to levels of diesel air pollution that are 100 to 1,000 times the amount considered safe for humans. The Department must address the deadly pollution caused by the freight transportation system and commit to additional actions beyond the ACT and Heavy-Duty Vehicle rules. Actions to be taken by New Jersey and local governments include, but are not limited to, adopting fleet purchase requirements that ensure zero-emission vehicle deployments in EJ communities, creating local ordinances for low-/zero-emission zones in EJ communities, implementing an indirect source rule customized to EJ communities, scrapping and retrofitting existing diesel equipment in EJ communities, and mandating emission-reduction measures that target EJ communities, transportation corridors, and port regions. The need, benefits, and feasibility of the Heavy-Duty Vehicle rules are well understood; however, new vehicle emission standards alone do not guarantee emission reductions in EJ communities. Rather, additional State and local action must be taken. (23)

29. COMMENT: Communities located adjacent to ports and related goods-movement infrastructure (that is, warehouses, logistics centers, rail yards) experience higher levels of truck traffic, both from surrounding thruways and on local streets, which exacerbates health concerns. As these emissions are local in their effects, policies to reduce transportation emissions from medium- and heavy-duty vehicles can improve the health and well-being of communities in urban areas or around transportation corridors, which are often home to people of color, low-income residents, or those who are otherwise vulnerable or disadvantaged. To ensure reductions in those communities, program requirements on truck manufacturers, such as the ACT and CARB's Low NO_x Omnibus rule, will need to be accompanied by additional policies designed specifically with these communities in mind. The adoption of CARB's Low NO_x Omnibus rule

should be done in concert with regulatory protections to transition our medium- and heavy-duty vehicle sector to electrification. (18)

30. COMMENT: The ACT and Heavy-Duty Vehicle rules cannot be relied on alone to address New Jersey's deep environmental injustices. Additional actions that target emissions reductions in EJ communities must also be taken by the State and local governments. These actions could include: establishing fleet purchase requirements; local ordinances for lower zero-emission zones; a warehouse indirect source rule; replacing and retrofitting existing diesel equipment in EJ communities; or mandating guaranteed emissions reduction measures in targeted EJ communities, transportation corridors, and port regions. (25)

31. COMMENT: Tailpipe pollution causes tens of thousands of premature deaths nationwide each year, especially in communities of color. Trucks are on the roads for decades, which means the choices the State makes now will have an effect for years to come. The Department should ensure there are no diesel death zones. Low-income people should not be victims simply because they cannot afford to move. (1)

32. COMMENT: Localized heavy-duty vehicle pollution disproportionately impacts certain communities across the State – typically low- and moderate-income individuals and environmental justice communities – that are more likely to reside near freight corridors, ports, bus depots, and the Newark airport. Communities of color and low-income individuals are statistically much more likely to live near busy roads and have commensurately higher exposure to harmful transportation pollution. Relevant for New Jersey, a recent Union of Concerned Scientists study found that Asian American, Black, and Latino American residents in the Northeast and Mid-Atlantic region were exposed to 66 percent more air pollution from cars and

trucks than White residents. This is corroborated by research from the South Ward Environmental Alliance, which points out that the South Ward of Newark "is the backyard of the third-largest port with 20,000 trucks trips per day and 4,500 of them stay on the local roads of the South Ward…[which] is an environmental health injustice" and is, thus, disproportionately suffering from health concerns with pollution from this and other sources. Also, this pollution contributes to heightened levels of respiratory and cardiovascular disease, comorbidities that may exacerbate the severity of COVID-19. As such, New Jersey must take action to start mitigating the impact of these vehicles and ensure that EJ communities are prioritized for infrastructure and vehicle deployment so that the near-term public health and community benefits can be maximized. (3)

33. COMMENT: Living, playing, working, and/or going to school on a truck corridor, near a port, or warehouse is a hazard to your health. According to the World Health Organization, diesel particulates are a known human carcinogen. Its corresponding smog-forming NO_x emissions are a very potent ground level pollutant and precursor to ozone. Together, they cause a number of acute and chronic public health harms including, but not limited to, respiratory disease, asthma, strokes, heart attacks, and premature death. In the Ironbound section of Newark, medium- and heavy-duty vehicles account for 24 percent of the NO_x, 14 percent of $PM_{2.5}$, and 19 percent of black carbon – more than all light duty vehicles combined. Non-road mobile sources (marine, cargo handling equipment, and rail) account for 77 percent of NO_x exposure and 85 percent of $PM_{2.5}$ and black carbon. The region is currently in non-attainment for ozone of which NO_x is a precursor. Non-attainment for $PM_{2.5}$ may also occur if the Federal standard is lowered as predicted. Given the acknowledged health and community impacts of diesel, New Jersey

needs to adopt as many regulatory tools, even going beyond the California rules where it can, in order to speed up the pace and/or mandate diesel emission reductions and simultaneous adoption, implementation, and funding of zero emission strategies (for example, electric vehicles) particularly in communities of Black, Indigenous, and People of Color (BIPOC communities) already overburdened by port operations and goods movement. (10)

34. COMMENT: According to the American Lung Association, New Jersey has eight counties that receive a D or an F grade for air quality. The Heavy-Duty Vehicle rules would go a long way in improving air quality in the most impacted and EJ communities. As truck traffic is expected to increase, the Department should adopt rules that go even further than these. (6)

35. COMMENT: The significant nationwide NO_x reductions from EPA's Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards for commercial vehicles and engines (the EPA's rule) will address any remaining nearer-term air quality issues in New Jersey. To the extent that there might be other local needs to reduce emissions from NO_x "hotspots" within the State, those local needs could be best addressed through more specific approaches, such as targeted accelerated fleet turnover programs, deployment of zero-emission vehicles (ZEV) and equipment at specific facilities, utilization of the State's purchasing and contracting power to acquire ZEV trucks, and other targeted incentive programs, rather than through the adverse Statewide economic and environmental impacts that would result from the implementation of CARB's infeasible and cost-prohibitive Low NO_x Omnibus program. Accordingly, New Jersey should align with the EPA's rule as the best option for achieving the State's air quality goals during the bridge years before significant ZEV-truck market penetration takes hold. (8)

RESPONSE TO COMMENTS 26 THROUGH 35: As stated in the notice of proposal, the Department expects that by reducing emissions of air pollutants from medium- and heavy-duty vehicles there will be corresponding health benefits, particularly in local communities disproportionately impacted by heavy truck traffic. See 54 N.J.R. at 2025. The Department is adopting CARB's more stringent emission standards, in part, because the communities most impacted by medium- and heavy-duty truck emissions should receive the greatest emission benefits possible. Nonetheless, the Department will continue to evaluate a variety of regulatory mandates, policies, and revenue sources to support incentive programs that can accelerate transportation electrification programs, reduce emissions, and directly address emission and equity issues in overburdened communities in a collaborative manner. The Department's continued efforts will include, but not be limited to, implementation and enforcement of the Environmental Justice Law, N.J.S.A. 13:1D-157 et seq., coordination with other State agencies and overburdened communities to ensure equity in vehicle and infrastructure incentive programs, including the use of Regional Greenhouse Gas Initiative funds, and monitoring the progress of California's rulemaking actions related to the transportation sector.

Environmental Justice and Electric Trucks

36. COMMENT: Residents of low-income residential areas are frequently exposed to air pollution from trucks. Residents of all ages, including unborn children, may be subjected to birth defects due to air pollution, as well as asthma, lung damage, and cancer. Diesel truck exhaust contains significant amounts of 2.5 micron particles and oxides of nitrogen, whose reaction with other pollutants and atmospheric oxygen produces still more dangerous compounds. To address

this pollution, the Department should adopt rules requiring an increasing percentage of electricity-powered trucks. Start with short-haul trucks and gradually, as charging stations for trucks become common, move on to long haul trucks. Zero-emission trucks will address air pollution and climate change. (5 and 11)

37. COMMENT: Dirty diesel in school buses, port drayage trucks, equipment, construction, municipal, and garbage truck fleets is a massive environmental justice issue, and the State should do much more, much faster. More recently, the proliferation of warehouse development in the State has become a growing concern about the traffic and harmful diesel emissions, whether it's in overburdened communities or rural beautiful farm fields. Living, playing, working, and going to school along truck corridors near a port, or near warehouses, is a hazard to health. However, these rules will not take any of the oldest and dirtiest diesel trucks off the roads for decades. The rules have no mechanism to prevent the dirtiest of diesel trucks from operating at the port and along logistics corridors as the port continues to grow. If California's Advanced Clean Fleets (ACF) rule progresses as expected, it would allow only zero-emission/electric trucks to enter California’s ports beginning in 2024. The Department must be bold and take steps like mandating the reduction of diesel emissions, especially in BIPOC, low-income, and language-isolated communities. (20)

38. COMMENT: The adoption of the strong and effective Heavy-Duty Vehicle rules is key, but not the only actions this Administration can take to move farther and faster towards zero emissions in transportation and goods movement. The Department is responsible for protecting and serving the public, health of people and the environment, mitigate against climate and make us more resilient to our climate future. California is developing an ACF rule that includes

provisions concerning port drayage trucks. If California's rule proposal progresses as expected, it would only allow zero emission/electric trucks to enter California ports beginning in 2024. New Jersey should follow suit. (10)

39. COMMENT: The Department should move forward with the Heavy-Duty Vehicle rules and work to adopt by reference California's Advanced Clean Cars II rule, which will accelerate the transition to light-duty electric vehicles. In the medium- and heavy-duty vehicle sector, there is a similar transition both with the wide-spread adoption of the ACT rules, but also the coming adoption of California's ACF rule, with its focus on port drayage trucks. The requirement of electric trucks for California's ports is ultimately where New Jersey policy needs to lead. Diesel combustion from the medium- and heavy-duty fleet no longer needs to be a permanent curse for this vehicle fleet. The proposed rule should be adopted as part of the broader transition by New Jersey regulators to move forward for an electric truck future within these next two decades. (18)

40. COMMENT: The Department must continue to prioritize communities overburdened with pollution and focus on the pollution reduction mechanisms that will get cleaner air for these communities as soon as possible. A strong transition of heavy-duty vehicles from diesel to electric will go a long way in helping many communities affected by the in-and-out traffic of these deadly polluting vehicles at ports. Additionally, the Department should incorporate by reference California's Advance Clean Cars II, which is the next logical step in tackling the biggest source of greenhouse gas and air pollution in New Jersey. (21)

41. COMMENT: The Department must enact zero emissions rules around ports and other diesel death zones that are a growing and accelerating problem for our already overburdened communities. (14)

42. COMMENT: Scientists have labeled areas with heavy traffic "diesel death zones," and have linked exposure to diesel exhaust to more than four dozen toxic air pollutants that cause birth defects, lung damage, and cancer. Zero-emission trucks will help address local air pollution problems and meet climate goals. There are electric refuse trucks, electric school and transit buses and shuttle buses, electric terminal trucks for distribution centers, electric postal trucks, and so many more. (2, 7, 12, 16, and 19)

RESPONSE TO COMMENTS 36 THROUGH 42: As explained in the Response to Comments 26 through 35, the Department will continue to evaluate a variety of regulatory mandates, policies, and funding sources to support incentive programs that can accelerate transportation electrification programs, reduce emissions, and directly address emission and equity issues in overburdened communities in a collaborative manner. In 2021, the Department adopted the ACT rules, which require manufacturers of vehicles over 8,500 pounds gross vehicle weight rating (GVWR) to participate in a credit/deficit program intended to increase the percentage of zero-emission vehicles sold in New Jersey. In addition, the rulemaking requires a one-time reporting that will enable the Department to obtain information on fleets of medium- and heavy-duty vehicles in the State. The Department adopted the reporting provisions because New Jersey is closely monitoring California's transportation rulemaking initiatives, including the ACF rule, as part of the State's broader network of policies and rules that will advance electrification. Further,

the Department began holding stakeholder meetings this year to consider California's Advanced Clean Cars II rule, which has electrification requirements for light-duty vehicles.

Scrappage

43. COMMENT: While the ACT rules, and now the Heavy-Duty Vehicle rules have value and are stronger than the EPA rules and should be adopted, they are fundamentally not the answer to the environmental injustices that occur each and every day in port adjacent neighborhoods. These rules will not take any of the oldest and dirtiest diesel trucks off the road for decades. There is no scrapping requirement of the diesel engine even when/if replaced by electric powered trucks. There is also no mechanism to prevent the dirtiest of the diesel trucks from operating at the port and along logistics corridors as the port continues to grow. (10)

44. COMMENT: Clean diesel engines remain a misnomer and new vehicles that hit the road will be polluting for decades. There is no mechanism to remove the oldest and dirtiest diesel trucks from the roads or scrapping requirement for the oldest diesel trucks. There are no restrictions on the oldest and dirtiest diesel trucks from operating at the Port of Newark and Port of Elizabeth, in addition to the South Jersey Port, or on their primary logistics corridors, which directly contrasts with California's port truck policies. (18)

RESPONSE TO COMMENTS 43 AND 44: The Department's primary goal in proposing these rules was to continue to reduce pollutants from new gasoline- and diesel-powered vehicles in excess of 8,500 pounds GVWR that will continue to be placed in use throughout New Jersey as the State transitions to electrification of the transportation sector. 54 N.J.R. at 2009. The Department recognizes that these rules do not require old vehicles to be removed from service. However, as noted in the Response to Comments 36 through 42, the Department is closely

monitoring California's transportation rulemaking initiatives, including the ACF rule. Though the ACF rule is only at the proposal stage, one component of the proposed ACF rule is the acceleration of fleet turnover at places such as ports and warehouses. If adopted, the Department will evaluate whether the ACF rule should be part of the broader suite of strategies pursued in New Jersey.

Engine Family or Engine Class Credit Systems

45. COMMENT: Policies that allow emission averages or credits within a family or class of trucks (that is, offsetting dirtier engine model trucks with cleaner diesel or EV trucks) fail to adequately address environmental justice. A true environmental justice policy would have no trading or credits. There would be an absolute mandatory reduction in emissions, particularly in already overburdened communities, either by mandating only the cleanest of diesel truck fleets or zero-emission only truck corridors. The proposed rules allow pollution shifting within a family of trucks and between manufacturers. This should not be allowed as older trucks often end up at the ports concentrating diesel emissions, health, traffic, and other impacts even further. (10)

46. COMMENT: The Heavy-Duty Vehicle and ACT rules rely on credit trading systems for accounting and compliance. If New Jersey wants to adopt California's emission standards, the rules must be identical. However, trading systems do not guarantee emission reductions in EJ communities. Though the rules should be adopted, the emission credit trading system included in the rules are opposed by the EJ community. Freight-adjacent communities, like the people who live and work around the Port Newark-Elizabeth Marine Terminal, have disproportionately borne

the burdens of New Jersey's goods-movement industry for far too long, and the Department must ensure that its mobile source programs target emission reductions first and to the largest extent in these overburdened communities. (23)

47. COMMENT: The EJ advocacy community has generally opposed emissions trading. Primarily, EJ advocates oppose emissions trading because it does not guarantee emissions reductions at any one location and, therefore, does not ensure reductions will occur in EJ communities. The Heavy-Duty Vehicle rules include a credit trading system, and it is not clear what impact this system will have on emissions reductions in EJ communities. The credit trading system could conceivably play a role in allowing reductions to continue to occur in EJ communities, or at the very least play a role in not maximizing possible reductions in these communities. Support for the Heavy-Duty Vehicle rules should not be construed as support for the credit trading system included in the rules. (24)

48. COMMENT: Though California's Low NO_x Omnibus rule should be adopted in New Jersey, broader electrification efforts of the medium- and heavy-duty vehicle sector must be pursued over the next two decades. Policies that allow emissions averages/credits within truck classes do not ensure that the dirtiest diesel vehicles are removed from the roads. This is an especially damaging component of the proposed rules because the dirtiest diesel vehicles end up being port drayage trucks which stay within close proximity of the ports and its surrounding neighborhoods, exacerbating the diesel death zones that impact Newark's Ironbound community. (18)

49. COMMENT: It is critical to reexamine the credit system in the rules to ensure that the State sees an absolute reduction in emissions and to ensure that its most vulnerable communities are seeing the most benefit from the rules. (17)

50. COMMENT: Policies that allow credits and trading between engine families to allow for manufacturer flexibility must be implemented alongside mandatory emissions reductions that prevent disproportionate burdens of trading policies on EJ communities. (25)

RESPONSE TO COMMENTS 45 THROUGH 50: The Department acknowledges the input and concerns raised about the credit trading/family emission limits built into CARB's Low NO_x Omnibus rule. However, the Department is constrained by the identicality requirements of the Clean Air Act. As noted in the Response to Comments 26 through 35 and 36 through 42, the Department understands that more needs to be done to target emission reductions in communities that are disproportionately impacted by medium- and heavy-duty vehicle pollution. Accordingly, the Department will continue to evaluate a variety of regulatory mandates, policies, and funding sources to support incentive programs that can accelerate transportation electrification programs, reduce emissions, and directly address emission and equity issues in overburdened communities in a collaborative manner. To date, the State has awarded nearly $240 million to electrify vehicles operating in and around overburdened communities and will continue to target available funding to such efforts.

Eliminate Idling of Trucks

51. COMMENT: Though these rules are needed, they do not go far enough. Idling trucks, including trucks idling overnight, are a growing problem in New Jersey. The Department should

eliminate loopholes that allow for continued idling, which is a major source of $PM_{2.5}$ pollution. (14)

52. COMMENT: There are more and more trucks in New Jersey. In addition to adopting these rules, the Department should end truck idling. (15)

RESPONSE TO COMMENTS 51 AND 52: The Department's rules limit engine idling for both diesel and gasoline vehicles to three minutes with limited exceptions. See N.J.A.C. 7:27-14.3 and 15.8. To the extent members of the public have concerns about potential violations of the idling rules, those concerns may be reported through the Department's hotline for investigation: 877-WARN-DEP or through the WARN DEP app.

The Federal Standards Versus the California Standards

Defer

53. COMMENT: The Department should defer adoption of the Heavy-Duty Vehicle rules until such time as the Department can thoroughly evaluate the nationwide heavy-duty low NO_x regulations that the EPA will be finalizing before the end of 2022. Those Federal regulations will comprehensively address the Department's concerns regarding diesel truck emissions by reducing those emissions to near zero levels and will do so in a far more feasible and cost-effective manner than California's regulations. (8)

54. COMMENT: The Department should withdraw the proposed opt-in to California's Low NO_x Omnibus rule in light of the fact that on December 20, 2022, the EPA finalized more effective low-NO_x regulations that are much better suited to address New Jersey's air quality priorities. (8)

55. COMMENT: The Department should delay the adoption of the proposed rules in favor of a national standard that the EPA is expected to implement. A single national standard will likely create the necessary demand for low emission buses which will, in turn, incentivize manufacturers to build them. This should reduce concerns about availability and may have a positive impact on purchase price as well. (22)

56. COMMENT: California's Low NO_x Omnibus rule raises many concerns in California that apply similarly for New Jersey. The Department's adoption of the California rule raises additional concerns related to manufacturers and customers managing unique products for different states. Accordingly, New Jersey and other states should remain aligned with the EPA's heavy-duty engine standards. (27)

57. COMMENT: Companies are investing billions of dollars to develop heavy-duty on-highway zero-emission vehicles (ZEVs), and fully support expanding the heavy-duty ZEV market in New Jersey. ZEVs are and need to be the future of the commercial trucking industry. However, the Department's proposal to adopt CARB's Low NO_x Omnibus rule will not foster or accelerate the transition to ZEV trucks in New Jersey. Rather, the proposed opt-in is far more likely to upend the heavy-duty on-highway market in New Jersey and will undermine the implementation of the ACT regulations that the Department adopted at the end of 2021, which will similarly disrupt and undermine the deployment of ZEV trucks in the State. (8)

58. COMMENT: The EPA's rules will take effect starting with the 2027 model year, the same year that the Department's proposal to incorporate by reference CARB's Low NO_x Omnibus rule would take effect. By law, the EPA's final, very-stringent rules will achieve the greatest feasible reductions in heavy-duty on-highway engine and vehicle emissions, taking costs and other

important considerations into account. It is well-established that national standards are far more effective than state-specific requirements for regulating heavy-duty on-highway vehicle and engine emissions, since those sources are inherently designed for and utilized in interstate commerce. Further, nationwide standards mitigate the potential pre-buy/no-buy impacts, and are far more cost-effective, since the attendant regulatory costs can be allocated across national sales volumes, as opposed to much lower state-specific sales. Due to the stringency, and timing of California's Low NO_x Omnibus rule requirements, there is a strong likelihood that commercial vehicle and engine manufacturers will be so overwhelmed that the major manufacturers will exit the California market. Significantly, no manufacturer has confirmed more recently that California-compliant products will be available. Similarly, no commitments have been made by any original engine manufacturer (OEM) regarding the availability of California-compliant products for the 2027 model year and beyond. Accordingly, it is reasonable to anticipate that no OEM will manufacture California-compliant heavy-duty on-highway products from and after the 2027 model year. States outside of California should work to avoid that type of adverse market outcome. Otherwise, the consequences could be severe – both environmentally and economically. (8)

59. COMMENT: In late December, the EPA issued new standards that would curb dangerous tailpipe pollution from trucks in the coming years, the first time it has updated these standards in more than two decades. However, these standards fall short, and the agency missed a critical opportunity to slash soot and smog and accelerate the shift to the cleanest vehicles. This decision means that states like New Jersey must act ahead of the Federal government, adopting regulations like California's Low NO_x Omnibus rules in order to secure the public health of State

residents. In August 2022, the Port Authority of New York and New Jersey (PANYNJ) surpassed the Ports of Long Beach and Los Angeles to become the busiest port in the nation. This is not an aberration, but a trend, with more than seven million units of cargo passing through the PANYNJ in 2019 and expected to more than double by 2050. Importantly, 80 percent of all cargo capacity from the PANYNJ is situated in New Jersey's Port Newark-Elizabeth Marine Terminal complex. Diesel drayage trucks transport 85 percent of the goods from the port to warehouses, assembly facilities, and retailers in the immediate region. On average, more than 9,000 truck drivers make 14,000 trips each day along local roads and major highways, passing schools, playgrounds, offices, and homes. Twenty percent of these truck trips to the port start in Newark, and 23 percent of trips from the port end in Newark. Given the magnitude of the problem, New Jersey must take the strongest possible action to eliminate transportation emissions.

In the case of the ACT and Low NO_x Omnibus rules, nine additional states including Oregon, Washington, Massachusetts, New York, New Jersey, Colorado, Vermont, Maine, and Connecticut have either adopted one or both of these rules or have publicly stated intentions to do so. Given the sheer size of the truck market these states encompass, manufacturers are making the necessary investments to adjust production lines to deliver vehicles that comply with the ACT and California's Low NO_x Omnibus rules—but these vehicles and their significant benefits will go first to the states that have opted into the standards. (23)

RESPONSE TO COMMENTS 53 THROUGH 59: The Department recognizes the potential benefits of a national program and supports the Federal government's efforts to reduce pollutants from medium- and heavy-duty vehicles and engines. However, the Federal Clean Air Act

(CAA) (42 U.S.C. §§ 7401 et seq.) recognizes that a national standard will not be appropriate for every state. Under the CAA, the State of California, may enact stricter emission standards than the national standards set by the EPA, so long as California receives a waiver. See 42 U.S.C. § 7543. The CAA also authorizes qualifying states to adopt and enforce emission standards for which California has received a waiver. See 42 U.S.C. § 7507. The Department analyzed the implications of New Jersey's incorporation by reference of California's Low NO_x Omnibus rule and determined that the more stringent California standard is a necessary component of a comprehensive approach to reduce emissions from the transportation sector in New Jersey. Like California, New Jersey needs to reduce Statewide emissions of NO_x to attain the NAAQS for ozone. See 54 N.J.R. at 2011. Not only does NO_x negatively impact air quality as a direct air pollutant, but NO_x is a precursor in the atmospheric formation of ozone and secondary $PM_{2.5}$. *Ibid*. Multiple studies have shown that NO_x, ozone, and $PM_{2.5}$ air pollution cause adverse environmental, social, economic, and health impacts. *Ibid*. The Department's efforts to reduce NO_x emissions are particularly important given the warming climate, which is just one of the ongoing meteorological conditions that are conducive to the formation of ozone. *Ibid*. Notably, approximately 75 percent of the annual NO_x air emissions in New Jersey (pollution emitted directly from pollution sources in New Jersey, as compared to ozone that is formed in the atmosphere and can also contain air pollution transported from other states) are from the mobile source sector, as the Department estimated based on its 2017 air pollution emissions inventory. *Ibid*. Given the State's non-attainment with the ozone NAAQS, the dense population, the large number of freight/transportation corridors, and the contribution of these vehicles to in-State emissions, the Department has determined, as discussed more thoroughly in the Response to

Comment 70, that the more stringent NO_x fleet certification standards set forth in CARB's Low NO_x Omnibus rule will address New Jersey's air quality issues more effectively than the national standard because they will yield greater NO_x emission reductions. Moreover, as discussed in the Response to Comments 60 through 65, the Department is satisfied that it is feasible for manufacturers to meet the more stringent engine standards by model year 2027.

Feasibility

60. COMMENT: The EPA has recently finalized a comprehensive and stringent suite of nationwide low-NO_x regulations for new heavy-duty on-highway engines and vehicles. Importantly, the EPA regulation mirrors California's Low NO_x Omnibus rule in all key aspects – new dramatically lower NO_x and PM standards; new low-load NO_x standards; new "binned" moving-average window (MAW)-based in-use standards; enhanced on-board diagnostic (OBD) standards; and significantly extended useful life and emissions warranty requirements – but does so in a more feasible and far more cost-effective manner.

California's Low NO_x Omnibus rule, however, is infeasible and cost-prohibitive. Two years have passed since CARB first proposed the Low NO_x Omnibus requirements. During that time, Southwest Research Institute (SwRI), the expert emissions-research laboratory engaged by both CARB and the EPA, has conducted additional emissions testing of the prototype low NO_x engines and aftertreatment systems. The low-NO_x "Stage 3" prototype engines and aftertreatment systems are the technical bases for the California and EPA regulations. Those additional tests have shown, among other things, that: (i) CARB's proposed in-use "Bin 3" emission standard is infeasible under various test cycles, as well as at the proposed extended useful life and emissions warranty mileages; (ii) CARB's standards provide no variability allowance or compliance

margin to account for engine/aftertreatment component and manufacturing variances, or to reflect the impacts of in-use ambient operating conditions, including ambient temperatures, extreme duty cycles, and in-use fuel-quality issues; (iii) certain of CARB's standards would compel additional measures to ensure higher exhaust temperatures under low loads, which will increase CO_2 emissions, and (iv) under cold ambient temperatures, the NO_x emissions from the "Stage 3" prototype increase by 0.04 g/bhp-hr (or more), which is two times more than CARB's proposed primary certification NO_x standard (0.02 g/bhp-hr). As the EPA's regulations will reflect the emissions test data and results that have been developed over the two years since CARB first proposed the Low NO_x Omnibus rule, the EPA's regulations are more feasible and cost-effective than CARB's rule.

In light of these more recent technical developments and findings, the EPA has rightly concluded that a full nationwide implementation of CARB's Low NO_x Omnibus rule is not feasible. Perhaps even more significant, it appears that the Department has not conducted any due diligence of its own regarding these important intervening technical developments, but instead appears to be relying solely on CARB's out-of-date and incomplete analysis from more than two years ago. That approach is insufficient to support New Jersey's contemplated adoption of the Low NO_x Omnibus rule, especially since the Department has not conducted any assessment whatsoever of the relative efficacy of the EPA's recently finalized regulations. (8)

61. COMMENT: The NO_x standard for model year 2027 and subsequent years set forth in CARB's Low NO_x Omnibus regulation, can be achieved by adding cylinder deactivation – a technology widely used in passenger vehicles. In addition to being feasible, California regulators determined that the standards provide net societal benefits. According to CARB staff's thorough

assessment, in California, the monetized health benefits of the NO_x emissions reductions are eight times greater than the costs of compliance, primarily as a result of the significant prevention of nearly 3,900 premature deaths. As well, though the lifecycle cost increase of buying a new, cleaner diesel truck meeting the 0.02 g/bhp-hr proposed standard ranges from about five to nine percent, depending on the truck size and model year, this is unlikely to be a barrier to many businesses purchasing new trucks, particularly if financial incentives are designed to address the upfront cost in the early years of deployment.

CARB staff has demonstrated the technical feasibility of both the 2024 and 2027 proposed NO_x standards through several years of extensive development and testing in partnership with the SwRI. While testing has seen NO_x emissions deteriorate slightly above the proposed 2027 standard as the test engine is approaching the end of its useful life, SwRI has identified additional approaches that engine manufacturers can pursue to prevent a decrease in the effectiveness of these vehicles in achieving the needed emission reductions. SwRI evaluated several engine modifications that could prevent an increase in fuel consumption while simultaneously reducing NO_x. SwRI down-selected cylinder deactivation is the most practical technology that helps improve engine efficiency and reduces CO_2. Cylinder deactivation also increases exhaust temperature, which reduces CO_2 by improving NO_x catalyst efficiency, especially at low speed and low load conditions where current after-treatment systems have been less effective due to low exhaust temperature. Thus, cylinder deactivation helps achieve a 90 percent reduction in NO_x emissions under most driving conditions with no increase in CO_2 emissions or fuel consumption. These approaches increase the efficiency of the NO_x after-treatment devices to reduce NO_x emissions below the proposed standard, allowing for future

deterioration. Moreover, engine manufacturers still have six years to improve the NO_x control system before compliance in 2027, ample time to address emission deterioration. (3)

62. COMMENT: The timeline of CARB's Low NO_x Omnibus rule does not present undue constraints. The low NO_x standards that immediately preceded CARB's recent Low NO_x Omnibus rule, which largely mirrored the EPA standards, were some of the most technology-forcing emissions standards ever adopted – requiring the development of a completely new catalyst, new particulate filters, and a system that had to track the amount of NO_x in the tailpipe, an amount that varies greatly under different driving conditions and integration of an advanced and complex engine exhaust gas recirculation system. Further, those new technological elements all had to work in concert without significantly impacting fuel consumption. Despite these challenges, manufacturers were readily able to meet these standards in a timely manner and maintained the minimal impact of fuel consumption required. In contrast, "meeting the envisioned CARB 2024 targets would require very modest increases in technical complexity and costs." Thus, compliance can reasonably be achieved on the timeline set forth by CARB and there is no reason to expect that industry cannot rise to the occasion. (3)

63. COMMENT: Opponents of the rules claim that cutting the NO_x emission limit for new fossil fueled heavy-duty vehicles by 90 percent by 2027 to 0.020 g/bhp-hr is infeasible. This effort to dissuade states from adopting the rule ignores nearly a decade of rigorous research, testing, and demonstrations that convincingly show a 0.020 g/bhp-hr standard for model year 2027 can be met. Over eight years ago, the SwRI began working with local, state, and Federal regulators and industry to determine what, if any, technologies could meet a 0.020 g/bhp-hr NO_x requirement. The most recent results from this multi-million-dollar demonstration project are conclusive: the

HDO rule's 2027 requirements can be met with plenty of margin for a variety of real-world truck routes. While the SwRI demonstration project is proving what's possible, the companies building emission control systems are delivering solutions. According to the Manufacturers of Emission Controls Association (MECA), their members are developing numerous engines and aftertreatment technologies "to simultaneously meet future NO_x and GHG emission standards" which "include electrification, advanced turbochargers, EGR systems, cylinder deactivation, advanced catalysts and substrates, novel aftertreatment architectures, and dual urea dosing with optional heating."

Innovation is driving cost-effective solutions. In fact, the technologies to meet CARB's Low NO_x Omnibus rule's first stage that runs through 2026 are already commercially available at minimal cost and truck manufacturers have more than enough lead time to explore and commercialize existing demonstration projects to meet the second stage beginning in 2027. The Low NO_x Omnibus rule's purpose is to push innovation further and faster to accomplish the maximum pollution reduction possible in a realistic timeframe. Demonstration projects are proving a suite of options are available to meet even the most stringent pollution requirements while potentially cutting costs for fleets and manufacturers. (23)

64. COMMENT: CARB's Low NO_x Omnibus rule was informed by years of extensive feedback and analysis, proving with overwhelming evidence its feasibility. More than eight years ago the Southwest Research Institute began working with local, state, and Federal regulators in industry to determine what technologies could meet the Low NO_x Omnibus rules' strongest requirement of .02 grams of NO_x per brake horsepower-hour. The most recent results from this multi-million-dollar demonstration project are conclusive. The 2027 requirement of CARB's Low NO_x

Omnibus rules can be met with plenty of margin for a variety of real-world truck routes, and several manufacturers are already making plans to develop engines to meet these 2027 requirements. (4)

65. COMMENT: CARB has shown that these standards are technically feasible for manufacturers across the country through multiple technological pathways and that manufacturers can meet during the lead time to 2027, whether it be through technologies like improved thermal management of excess temperatures, improved selective catalytic reduction (SCR) conversion efficiency at low-engine loads, improved engine calibration or hardware changes, or advanced aftertreatment systems. Also, the improved warranty and useful life requirements ensure that these emission controls benefit communities lasting for longer periods of time. (25)

RESPONSE TO COMMENTS 60 THROUGH 65: The Department acknowledges that the emissions standards in CARB's Low NO_x Omnibus rule are technology-forcing. However, as some commenters have noted, studies from the SwRI and statements from MECA have indicated that it is feasible to meet CARB's engine standards by model year 2027 even though it will require further innovation. The Department will continue to monitor the progress of innovation, but believes, based upon the information currently available, that it is feasible for manufacturers to meet the more stringent engine standards by model year 2027.

Availability, Pre-Buy, Impact on ACT

66. COMMENT: If the Department proceeds to implement California's Low NO_x Omnibus standards, it is highly likely that manufacturers will not produce CARB-compliant heavy-duty on

highway trucks for sale in New Jersey as of the 2027 model year. Consequently, it is highly likely that if the Department adopts the Low NO_x Omnibus rules, there will be significant shortages (or "product blackouts") of new trucks available for sale in New Jersey to truck dealers and truck operators as of 2027. As a result, the market for new truck sales in the New Jersey heavy-duty on highway truck market will largely shut down. Truck operators may buy their new (and used) trucks outside of New Jersey or simply hold on to their current trucks longer. If new truck sales in New Jersey are precluded, and truck operators extend the life of their existing vehicles, emissions in New Jersey will increase. A 20-year-old truck emits 10 times more pollutants than a truck with current emissions control technology. Without new trucks entering the New Jersey market, those old trucks will stay on the road longer. The net result will be diminished returns in terms of emission reductions.

Additionally, a product blackout could have serious ramifications, including with respect to New Jersey's ACT rules since the percentage mandates under ACT to sell zero-emission trucks is derived from how many conventionally fueled trucks are sold. If no CARB-compliant products are available because manufacturers cannot feasibly make them, there will be no mandate in effect for zero-emission trucks either. So, New Jersey's adoption of the Low NO_x Omnibus rules could undermine the ACT rules. (8)

67. COMMENT: The Department's opt-in proposal also fails to account for the likely result that manufacturers will simply choose to exit the New Jersey market for new medium- and heavy-duty vehicle sales rather than trying to comply with CARB's infeasible and cost-prohibitive Low NO_x Omnibus standards. Similarly, the Department's "benefits" assumptions overlook the fact that truck purchasers in New Jersey likely would buy any needed new heavy-duty vehicles in

advance of the implementation of CARB's standards (a "pre-buy"), which would be followed by a long deferral of any new truck purchases after the California standards take effect in New Jersey (the ensuing "no-buy"). Alternatively, truck owners may simply retain their older vehicles for as long as possible, or will make any new truck purchases out-of-State. Again, the net result is that the emissions reductions that the Department is assuming (based solely on CARB's analysis) will not actually occur given the anticipated response of the medium- and heavy-duty vehicle market to the adoption of CARB's standards in New Jersey.

There are multiple other reasons why the Department's cost-benefit assumptions are insufficient. By way of example, the Department has not provided any independent estimate of how many new, conventionally fueled trucks supposedly would be sold and registered in New Jersey on an annual basis from and after the 2027 model year, also factoring any expected pre-buy/no-buy market behavior, if the Department proceeds to implement California's infeasible Low NO_x Omnibus program. Without any attempted accurate estimate of those supposed in-State new truck sales, the potential emissions benefits in New Jersey from opting-in to CARB's Low NO_x Omnibus rule cannot be assessed in any reasonable manner. The fact that the Department has not yet assessed that most basic information (or any other actual New Jersey-specific cost-benefit information) in this rulemaking process demonstrates that the regulatory impact analysis at issue is fundamentally inadequate. (8)

68. COMMENT: Forecasts of pre-buying in response to earlier generations of emissions standards did not materialize. In reality, "the pre-buy in response to 2007 criteria pollutant standards [was found] to be approximately symmetric, short-lived, and small in volume relative to previous estimates" – indicating that fears of mass purchase of more polluting vehicles before

implementation of a standard are unlikely to come to fruition. Katherine Rittenhouse and Matthew Zaragoza-Watkins, *Strategic Response to Environmental Regulation: Evidence from U.S. Heavy-Duty Vehicle Air Pollution Regulations* at 33, MIT CEEPR Working Paper (2016). The bottom line is that, rather than seeing fleets buy dirtier, ostensibly cheaper vehicles in a panic, there is clear evidence that there is no meaningful adjustment in market purchasing as a result of these standards – fleets recognize the cost savings over time of cleaner vehicles and do not seem inclined to ignore those benefits to reap the marginally lower purchase price of more polluting vehicles while they still can. (3)

69. COMMENT: It is important to note that industry arguments citing concerns about pre-buying in response to regulations have not been borne out by past experience. (13)

RESPONSE TO COMMENTS 66, 67, 68, AND 69: The Department acknowledges that with any change in emission standards, there is the potential for the phenomenon known as pre-buy. Moreover, some consumers may decide to purchase used, rather than new vehicles, or delay the purchase of new vehicles. Generally speaking, the pre-buy phenomenon occurs in the early years of the implementation of the new standards and does not continue over a prolonged period. Historically, this pre-buy phenomenon has occurred not only when CARB has adopted more stringent standards, but also when the EPA has adopted a more stringent national standard. As one commenter noted, the EPA's new Federal standards will begin in the same model year that New Jersey intends to implement the CARB standards. Thus, the pre-buy phenomena may occur in New Jersey whether the Department adopts CARB's Low NO_x Omnibus rules or defers to the national standard. In either case, the emission standards will become more stringent, and consumers may engage in aberrant behaviors as a result (excessive pre-buys, holding onto

vehicles longer, or purchasing used vehicles). To mitigate this risk, the Department has included a prohibition against stockpiling at N.J.A.C. 7:27-28A.6, which prohibits the purchase of new vehicles greater than normal business needs for the purpose of evading the requirements of the rules.

With regard to the impact on ZEV sales pursuant to the ACT rules, the Department notes that ACT will be implemented in model year 2025. Pursuant to the ACT rules, the deficits attributable to a manufacturer are based on the total number of its sales of medium- and heavy-duty vehicles in New Jersey. The deficits incurred each year must be offset by credits (sales of zero-emission vehicles) annually, beginning with model year 2025, and increase every year through 2035, thereby increasing the total number of ZEV sales in the State. If the adoption of CARB's Low NO_x Omnibus rule results in the pre-buy phenomenon, the Department would expect to see a larger than usual number of internal combustion engine vehicles sold in model years 2024, 2025, and 2026. This would only increase the number of ZEV sales that will be required of manufacturers in the early years of implementation of the Low NO_x Omnibus rules, potentially making up for any decrease in sales in subsequent years. Thus, it is not clear that implementing the Low NO_x Omnibus rules will lessen the impacts of the ACT rules.

The Department is not aware of prior "product blackouts" as a result of new emission standards. As the commenters have provided no examples or evidence of this phenomenon, and the Department received no comments from individual manufacturers specifying the products that they will not produce for New Jersey, the Department does not agree that this prediction is a highly likely outcome.

Emission Benefit Analysis

70. COMMENT: The Department has not conducted any independent analysis of whether the proposed opt-in will actually result in any net emissions benefits in New Jersey. Instead, the Department has relied almost exclusively on out-of-date California-focused analyses that CARB conducted nearly three years ago. In that regard, the Department has failed to quantify how the amount of emission reductions under the EPA's finalized regulations compare against the potential reductions under a California Low NO_x Omnibus opt-in.

If new truck sales in New Jersey are precluded, and truck operators extend the life of their existing vehicles, emissions in New Jersey will increase. In that regard, a 20-year-old truck emits 10 times more pollutants than trucks with current emissions control technology, and without new trucks entering the New Jersey market, those old trucks will stay on the road longer. The net result will be diminished returns in terms of emission reductions, and a wholesale undermining of the Department's prior opt-in to CARB's ACT program, since the mandated number of ZEV-truck sales under the ACT regulation is dependent on and derived from the number of sales of conventionally fueled new trucks in New Jersey. If that number drops to zero or near-zero in New Jersey in 2027, so too will the mandated number of ZEV-truck sales. All of that runs directly counter to the State's goal of accelerating the transition to ZEV trucks.

In summary, the EPA's single-step nationwide low-NO_x standards will yield greater overall emission benefits in New Jersey than CARB's infeasible multi-step phased-in program because: the EPA's standards are implementable and more effective; new low-NO_x trucks will continue to be available for sale in New Jersey; the ACT program will continue to be implemented; the anticipated pre-buy/no-buy impacts and market disruptions will be avoided;

and the HDOH vehicle fleet will continue to turn over in a cost-effective manner toward a ZEV-truck future.

The Department should not proceed with the proposed rulemaking until that quantitative comparative analysis is completed and vetted. Until the results from that most basic analysis are known, the Department will not be able to establish that its proposed opt-in will yield any actual net benefits for New Jersey. (8)

RESPONSE: Since the Department's notice of proposal published in November 2022, the EPA finalized its new national emission standards for medium- and heavy-duty vehicles. A comparison of the emission benefits provided by the Department's adopted rules (CARB's Low NO_x Omnibus rule) versus the EPA rule is very complicated because the two rules establish slightly different standards for numerous parameters for each vehicle category, such as fleet certification standards for various test procedures, useful life levels for emission controls, and warranty periods. It would be difficult to accurately quantify the exact difference in overall emission impacts between the two rules because each rule has standards specific to a particular vehicle class or useful life period that may be considered more stringent than the other rule's standard for that class or period. Secondary effects, such as potential responses to truck sales resulting from the two rules are typically not considered as part of the Department's emission benefit analysis. However, if they were, then, as discussed in the Response to Comments 66, 67, 68 and 69, the EPA's new Federal standards will begin in the same model year that New Jersey intends to implement the CARB standards; thus, the pre-buy phenomenon may occur in New Jersey whether the Department adopts CARB's Low NO_x Omnibus rules or defers to the national standard.

Despite the complexity of a comparative analysis of the emission benefits from the implementation of CARB's Low NO_x Omnibus rules versus the EPA's new rules, the Department has estimated a baseline for the NO_x emission benefits that would accrue pursuant to CARB's Low NO_x Omnibus rule versus the EPA's rule. A simplified approach to a comparison of the two rules is to contrast the difference between the NO_x fleet certification standards of the two rules. The EPA's rule lowers the NO_x fleet certification standard from its current level of 200 mg/HP-hr to 35 mg/HP-hr (82.5 percent reduction), while CARB's Low NO_x Omnibus rule lowers the standard to 20 mg/HP-hr (90.0 percent reduction). Based on this parameter only, CARB's Low NO_x Omnibus rule will yield approximately 8.3 percent greater reductions than the EPA's rule.

The Department has determined that the greater reductions achieved through implementing CARB's Low NO_x Omnibus rule will ensure that communities in New Jersey, especially those near high truck traffic corridors, benefit from the greatest NO_x emission reductions feasible.

Economic Analysis

71. COMMENT: If, as predicted, CARB-compliant products are not available in New Jersey from, and after, model year 2027, fleet operators will accelerate their purchase of new Federally certified vehicles in New Jersey, or acquire new trucks in adjacent non-opt-in states, rely more on the used truck market, or simply retain their existing fleet vehicles longer. To the extent that fleet operators are compelled to acquire new vehicles out-of-State, that would result in a cascading series of negative economic impacts. In particular, truck dealerships in New Jersey will face significant adverse consequences. Also, if New Jersey-based fleet operators were to

choose to relocate out-of-State, significant in-State job losses would result across the wide-ranging trucking sector, including within the goods-movement, warehousing, and truck-servicing and repair sectors. A far more effective bridge to the widespread sale and deployment of new advanced heavy-duty on highway vehicles is through the more cost-effective EPA rules that were recently finalized. Future Federally certified lower-NO_x heavy-duty on highway engines and vehicles will ensure that businesses and municipalities in every state, including New Jersey, have access to the full range of powertrain and vehicle solutions they are accustomed to purchasing today. They will not be forced to pay premium prices for new products, to purchase outside their brand preference, or to seek purchase opportunities in neighboring states. They can maintain profitability without resorting to purchasing used, higher-emitting vehicles, or maintaining their existing fleet longer without the environmental benefits gained from new vehicle purchases. (8)

RESPONSE: The Department's previous introduction of a CARB emission standard did not cause a cascade of negative economic impacts that resulted in widespread job loss in the State. Accordingly, the Department does not anticipate a cascade of negative impacts as a result of the adopted rules. With regard to the concern about fleets purchasing trucks out-of-State, the State has a mechanism to limit such transactions. In the case of new vehicles, CARB certification is verified at the time of initial registration and titling in New Jersey. Thus, the New Jersey Motor Vehicle Commission would reject any new vehicles that fail to meet certification requirements. Further, as noted in the Response to Comments 66, 67, 68, and 69, the EPA's new Federal engine standards will begin in the same model year that New Jersey intends to implement the CARB standards. Thus, the pre-buy phenomenon is just as likely to happen if the Department

were to defer to the national standard. It is also unlikely that the cost of a new vehicle, alone, would compel New Jersey-based fleet operators to relocate to another state. Business decisions of that magnitude would not be made on a single factor. Also, because the EPA has proposed new standards, the cost of medium- and heavy-duty vehicles will increase in every state, not just the states that adopt the CARB engine standards.

72. COMMENT: California's Low NO_x Omnibus rule will help drivers and fleets save on maintenance by increasing fossil fuel vehicles' manufacturer warranty and useful life requirement. Trucks will stay cleaner for longer, and it will also shift maintenance costs from fleets to manufacturers and create a powerful incentive for these manufacturers to produce tougher products that break less. The result is lower costs for fleets and drivers and the costs of fewer maintenance problems. Further, some of the engine control technologies such as opposing piston engines can meet the model year 2027 requirements while also saving fleets 11 percent on costs. (4)

73. COMMENT: Despite arguments to the contrary, the targets of California's Low NO_x Omnibus rule are feasible from a technological standpoint on the timeline set forth in the rule, and the benefits are significant. As the Department has recognized, California's Low NO_x Omnibus rule will result in reduced incidents of premature mortality and morbidity from exposure to both $PM_{2.5}$ and ozone in the State, which means that New Jersey will see significant societal benefits from its passage of this regulation. (13)

74. COMMENT: As part of a broader suite of policies, New Jersey's adoption of California's Low NO_x Omnibus rule would result in significant health benefits – contrary to the intimation

that these positive impacts do not outweigh costs. The emissions from medium- and heavy-duty vehicles are significant and can result in severe health impacts, missed workdays, and hospital visits. The significance of such health benefits should not be given short shrift in the context of analogous New Jersey rules. (3)

75. COMMENT: The Department's reliance on CARB's three-year-old analysis cannot justify the proposed rulemaking. More specifically, the Department is simply scaling based on vehicle miles traveled (VMT) to the understated cost estimate that CARB generated back in 2019 and 2020. Using that approach, the Department claims that the costs to heavy-duty on-highway vehicle purchasers in New Jersey from the proposed opt-in will be approximately $5,800 per truck over the life of the vehicle. That cost estimate is unreasonably low. More recent analyses by ACT Research and Ricardo confirm that the per-truck cost impacts of California's Low NO_x Omnibus regulation would be approximately $35,000 for heavy heavy-duty (HHD) trucks, not including the extra operating costs associated with increased diesel emission fluid (DEF) usage.

The Department, like CARB, also claims that some of the expected per-truck cost increases will be offset by the "savings to each vehicle owner, as a result of the longer warranties of the [Omnibus] standards." That is a flawed assumption, since it presumes that original engine manufacturers (OEMs) will not be able to accurately assess and pass on to customers the actual costs associated with lengthened emission warranties. The history of pricing in the heavy-duty on-highway engine and vehicle market conclusively refutes that assumption.

The Department also asserts that none of the costs associated with the research and development efforts associated with the design and manufacture of heavy-duty on-highway engine and aftertreatment technologies to meet California's Low NO_x Omnibus standards in

2027 will need to be taken into account in New Jersey because "manufacturers will already be conducting those [R&D] activities to meet California's requirements." That is a spurious argument. 2027 will be the first year of the second and most stringent phase of the Omnibus standards, such that OEMs would need to incur new and very significant R&D costs to try to comply with those standards for the first time - - in both California and New Jersey. Thus, New Jersey truck purchasers would not be exempt from those significant cost impacts.

In summary, the Department's reliance on CARB's cost-benefit analysis is inadequate and out of date. It cannot and does not support the proposed rulemaking, especially when there is a more cost-effective alternative in the form of the EPA's regulations (8)

RESPONSE TO COMMENTS 72, 73, 74, AND 75: The Department conducted an economic analysis that "describes the expected costs, revenues, and other economic impact upon governmental bodies of the State, and particularly any segments of the public proposed to be regulated." N.J.A.C. 1:30-5.1. The Department acknowledges that the Economic Impact analysis in the notice of proposal relied, in large part, on California's regulatory impact analysis, which included a number of assumptions. However, the Department determined that the bulk of CARB's assumptions were appropriate for New Jersey's analysis, and the Department made adjustments to those variables that it expected would have a significant bearing on the impact of the adopted rules' implementation in New Jersey.

As noted in the proposal Summary, the per-truck (HDD) net impact was estimated at $5,800 over the life of the vehicle based on assumptions about costs and savings that were described in the proposal. See 54 N.J.R. at 2027. One commenter took issue with the assumptions made by the CARB and the Department. A separate analysis cited by the

commenter yielded a per-truck (HDD) net impact estimate of $35,000. Although the analysis relied upon was not submitted as part of the comment, the Department deduced that it was based on a different set of assumptions, including the degree to which manufacturers would pass on the added costs to consumers. Any prediction of future conditions will be imprecise to some degree, because it is based on assumptions that may or may not prove accurate. In this case, the Department believes, based on the best available evidence, that the assumptions it relied on were reasonable and resulted in reasonable projections about the impacts of the adopted rules. Also, as other commenters note, the costs to vehicle manufacturers, purchasers, and operators are not the only consideration in an economic analysis. The Department must take a balanced approach to rulemaking that also considers health and environmental impacts and their corresponding costs and benefits.

Waiver

76. COMMENT: The Department should not adopt California's Low NO_x Omnibus regulation because those regulations likely are ineligible to receive a preemption waiver from the EPA. California adopted the Low NO_x Omnibus regulation on September 9, 2021. Those regulations take effect starting in model year 2024. Thus, CARB has only provided two model years of lead time (MYs 2022 and 2023) for the Low NO_x Omnibus regulations. That is inconsistent with the applicable provisions of the Clean Air Act (CAA), which mandate four years of lead time for heavy-duty on highway emission-control regulations. Accordingly, it is anticipated that the EPA could deny some or all aspects of CARB's waiver request. CARB's pending waiver request relates to heavy-duty on highway regulations that fail to provide the mandated four full model years of lead time. Based on the unambiguous terms of the CAA and the applicable controlling precedent,

the EPA cannot and should not grant those waiver requests. The net result is that the Department also cannot, and so should not, take steps to implement CARB regulations that are likely ineligible to receive the requisite preemption waiver. It also has become clear that the EPA's recently finalized emission standards are more stringent than CARB's Low NO_x Omnibus regulations in several material respects, including with regard to carbon monoxide and hydrocarbon emissions, and with respect to in-use NO_x emissions from medium/high-load engine operations. As a result, California's Low NO_x Omnibus regulations may be ineligible to receive a preemption waiver on the additional grounds that they are not "as protective of public health and welfare as applicable Federal standards." See 42 U.S.C. § 7543(b)(1)(A). (8)

RESPONSE: The Department is authorized to adopt California's standards before the EPA has granted a waiver, as long as the Department does not enforce the standards until the waiver is obtained. *Motor Vehicle Mrfs. Ass'n v. New York State Dep't of Envtl. Conservation*, 17 *F*.3d 521, 533-34 (2d Cir. 1994). Should the EPA determine that it will not grant California a waiver for some or all of the Low NO_x Omnibus rule, the Department will not enforce the rule (or any specific provisions that are not granted a waiver). In the absence of a definitive finding by the EPA on the request for a waiver, the Department has determined that CARB's Low NO_x Omnibus rule is a necessary component of a comprehensive approach to reduce emissions from the transportation sector in New Jersey.

Summary of Agency-Initiated Changes upon Adoption:

The Department is modifying N.J.A.C. 7:27-28A.11, Incorporation by reference, to reflect the most recent effective date of a Federal rule that was amended between the

Department's notice of proposal and notice of adoption of this rulemaking. The Department also notes a formatting error in the notice of proposal at N.J.A.C. 7:27-28A.11(f)7. The Department intended the phrase "(F) Transit Agency Diesel-Fueled Bus and Engine Exemption Request" to be a heading for the paragraph. The way it was printed, however, the header was combined with the paragraph text. The Department is correcting the formatting on adoption.

Federal Standards Statement

Executive Order (EO) 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65), require State agencies that adopt, readopt, or amend State rules to which the EO and statute apply, to provide a Federal standards statement. If those rules exceed any Federal standards or requirements, the agency must also include in the rulemaking document a Federal standards analysis.

Heavy-Duty Emission Standards

The Federal Clean Air Act (CAA) (42 U.S.C. §§ 7401 et seq.) granted the State of California, the authority to enact stricter emission standards than the national standards set by the EPA. See 42 U.S.C. § 7543. The CAA also authorizes qualifying states to adopt and enforce emission standards for which California has received a waiver, if the state gives two years' lead time. See 42 U.S.C. § 7507. Thus, once the EPA grants California's request for a waiver for the Low NO_x Omnibus rules, pursuant to 42 U.S.C. § 7543, the more stringent emission standards incorporated by reference will be a Federally authorized standard. If, however, a waiver is not granted, the rules will not be applied or enforced pursuant to N.J.A.C. 7:27-31.3. Given the

framework of the CAA, the adopted rules would not exceed a Federal standard once a waiver is granted. Thus, no further analysis is necessary.

Diesel Vehicle Inspection Procedures and Standards

The amendments at N.J.A.C. 7:27-14 apply the same test procedures and standards to all heavy-duty diesel vehicles. The Federal regulations that control establishment of enhanced inspection and maintenance programs are set forth generally at 40 CFR Parts 51 and 85. However, the Federal rules do not include test procedures and standards for diesel vehicles; therefore, the Department has determined that there are no comparable Federal standards. Accordingly, no Federal standards analysis is required.

Amendments at N.J.A.C. 7:27-15

The Department's amendments at N.J.A.C. 7:27-15 conform the provisions with N.J.A.C. 7:27-14. The amendments ensure consistency between the two programs; therefore, no Federal standards analysis is required.

Repeal of N.J.A.C. 7:27-28

The Department's repeal of N.J.A.C. 7:27-28 would not exceed a Federal standard. Thus, no further analysis is necessary.

Full text of the adopted new rules and amendments follows (additions to proposal indicated in boldface with asterisks ***thus***; deletions from proposal indicated in brackets with asterisks *[thus]*):

CHAPTER 27

AIR POLLUTION CONTROL

SUBCHAPTER 28A. MODEL YEAR 2027 OR LATER HEAVY-DUTY NEW ENGINE AND VEHICLE STANDARDS AND REQUIREMENTS

7:27-28A.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Bus company" means a private entity employing one or more buses for the transportation of passengers for hire.

…

"Transit agency" shall have the same meaning as the term "transit agency" as defined at 13 CCR 2020(b), as incorporated by reference at N.J.A.C. 7:27-28A.11.

...

"Urban bus" shall have the same meaning as the term "urban bus" as defined at 13 CCR 1956.8, as incorporated by reference at N.J.A.C. 7:27-28A.11.

7:27-28A.5 Exemptions

(a) Notwithstanding the provisions at N.J.A.C. 7:27-28A.3, the requirements set forth at N.J.A.C. 7:27-28A.4, 28A.7, 28A.8, and 28A.11 do not apply to:

1. -7. (No change from proposal)

8. A vehicle sold for the purpose of being wrecked or dismantled; *[or]*

9. A vehicle sold exclusively for off-highway use*[.]***;***

***10. An emergency vehicle, pursuant to California's Vehicle Code Sec. 27156.2 and 27156.3, as incorporated by reference at N.J.A.C. 7:27-28A.11; and**

11. A military tactical vehicle, pursuant to 13 CCR 1905, as incorporated by reference at N.J.A.C. 7:27-28A.11.

7:27-28A.11 Incorporation by reference

(a) Unless specifically excluded by this subchapter, when a provision of the CCR ***or the California Vehicle Code*** is incorporated by reference, all notes, comments, appendices, diagrams, tables, forms, figures, publications, and cross-references are also incorporated by reference.

(b) Supplements, amendments, and any other changes including, without limitation, repeals or stays that affect the meaning or operational status of a California rule ***or Code*** incorporated by reference, brought about by either judicial***, legislative,*** or administrative action and adopted or otherwise noticed by the State of California, shall be paralleled by a similar change to the New Jersey rule, so that the New Jersey rule will have the same meaning and status as its California counterpart. To satisfy the identicality requirement of the Clean Air Act, at 42 U.S.C. § 7507, all

new California regulations ***or Codes*** related to certification of model year 2027 or later new motor vehicles rated in excess of 8,500 pounds GVWR and model year 2027 or later new motor vehicle engines intended for use in motor vehicles rated in excess of 8,500 pounds GVWR are also incorporated into this subchapter by this automatic process.

(c) In the event that there are inconsistencies or duplications in the requirements of the provisions incorporated by reference from the CCR ***or the California Vehicle Code*** and the rules set forth in this subchapter, the provisions incorporated by reference from the CCR ***or the California Vehicle Code*** shall prevail.

(d) Nothing in the provisions incorporated by reference from the CCR ***or the California Vehicle Code*** shall affect the Department's authority to enforce statutes, rules, permits, or orders administered or issued by the Commissioner.

(e) On or after (*[the operative date of this rulemaking]* ***June 20, 2023*** or the operative date of California's regulations ***or Code***, whichever is later), any new California rules, ***Codes,*** amendments, supplements, and other changes that are brought about through administrative or judicial action and automatically incorporated through the prospective incorporation by reference process shall be effective upon publication in the California Regulatory Notice Register and operative on the operative date cited by California in the relevant California Regulatory Notice Register notice, unless the Department publishes a notice of proposal repealing the adoption in New Jersey of the California regulation in whole or in part, and/or proposing to otherwise amend the affected New Jersey rules.

(f) The following provisions of the CCR ***and the California Vehicle Code*** are incorporated by reference within this subchapter, except as provided at (f)1 through 7 below:

Table 1	
Provisions Incorporated by Reference	
California Code of Regulations (CCR)	
Title 13	
Chapter 1	
Motor Vehicle Pollution Control Devices	
Article 1	
General Provisions	
Section 1900	Definitions
***Section 1905**	**Exclusion and Exemption for Military Tactical Vehicles and Equipment***
Article 2	
((No change from proposal.)	
Article 6	
(No change from proposal.)	
Chapter 2	
(No change from proposal.)	
Chapter 9	
(No change from proposal.)	
Chapter 10	
(No change from proposal.)	
Title 17	
Division 3	
Chapter 1	
Subchapter 10	
Article 4	
Subarticle 12	
(No change from proposal.)	
***Provisions Incorporated by Reference**	
California Vehicle Code	
Division 12. Equipment Of Vehicles	
Chapter 5. Other Equipment	
Article 2. Exhaust Systems	
Section 27156.2	
Section 27156.3*	

1. – 6. (No change from proposal)

7. At 13 CCR 1956.8(a)(2)(F), replace the text to read as follows:

"(F) Transit Agency Diesel-Fueled Bus and Engine Exemption

[Request For] ***Request**

For* 2027 and subsequent model diesel-fueled medium heavy-duty or heavy heavy-duty engines used in urban buses, the Department will approve a Transit Agency Diesel-Fueled Bus and Engine Exemption Request made by a transit agency ***or bus company*** that meets each of the conditions and requirements at subparagraphs 1 and 2 below. If granted, an exemption request will allow a transit agency ***or bus company*** to purchase, rent, or lease exempt buses, contract for service with bus service providers to operate exempt buses, or re-power buses with engines that are certified to both the federal emission standards for 2010 and later model year diesel-fueled medium heavy-duty or heavy heavy-duty engines and vehicles, as set forth at title 40, Code of Federal Regulations section 86.007-11, *[as last amended October 25, 2016,]* ***effective March 27, 2023,*** and the Greenhouse Gas Emissions and Fuel Economy Standards for Medium- and Heavy-Duty Engines and Vehicles — Phase 2 requirements promulgated at 81 FR 73,478.

1. Conditions

If an exemption request is filed for the purpose of making a purchase of a MY 2027 or subsequent MY diesel-fueled medium heavy-duty or heavy heavy-duty engine to be used in an urban bus, the transit agency's ***or bus company's*** exemption request shall demonstrate that there are no diesel-fueled medium

heavy-duty or heavy heavy-duty engines used in urban buses certified to meet the Exhaust Emission Standards for 2027 and Subsequent Model Light Heavy-Duty Engines, and Medium Heavy-Duty Engines located at 13 CCR 1956.

2. Requirements and Procedures

a. The transit agency ***or bus company*** must submit its Transit Agency Diesel-Fueled Bus and Engine Exemption Request to the Department.

b. The Transit Agency Diesel-Fueled Bus and Engine Exemption Request must be submitted by May 1st of the first calendar year in which the exemption is requested.

c. The Transit Agency Diesel-Fueled Bus and Engine Exemption Request must identify the number of exempt buses needed for each bus type.

d. If the transit agency ***or bus company*** requests to apply the exemption request to an existing contract, the Transit Agency Diesel-Fueled Bus and Engine Exemption Request must include a copy of the contract.

e. The Transit Agency Diesel-Fueled Bus and Engine Exemption Request must identify the number of exempt buses or re-powered buses that the transit agency ***or bus company*** requests for each calendar year within the triennial period of the Transit Agency Diesel-Fueled Bus and Engine Exemption Request, where the year the request is submitted is counted as the first calendar year.

3. The Department will issue an Executive Exemption Approval Letter if all foregoing conditions and requirements at subparagraphs 1 and 2 above are met. The Executive Exemption Approval Letter will allow a triennial quota for the purchase, rent, lease,

contract for service, or re-power of exempt buses or engines. The triennial quota expires at the end of the third calendar year of the triennial period.

4. If the Transit Agency Diesel-Fueled Bus and Engine Exemption Request is approved by the Department, the transit agency ***or bus company*** may proceed with engine repower or exempt bus purchase, lease, rental, or contract for service. In the instance where new exempt engines and buses will be purchased or manufactured under the contract, the Executive Exemption Approval Letter will allow the bus and engine manufacturers to sell exempt engines to and manufacture exempt buses for the transit agency ***or bus company*** that has obtained the exemption. The transit agency ***or bus company*** must notify all parties involved of the approval and provide a copy of the issued Transit Agency Diesel-Fueled Bus and Engine Exemption Approval Letter to the engine and bus dealer(s), bus manufacturer(s), and engine manufacturer(s) involved with delivering the exempt buses or engines to the transit agency ***or bus company***.

5. A transit agency ***or bus company*** may request a hearing to review the Department's denial of an Executive Exemption Approval Letter pursuant to the procedures set forth at N.J.A.C. 7:27-1.32."