NOTE: THIS IS A COURTESY COPY OF THIS RULE PROPOSAL. THE OFFICIAL VERSION WILL BE PUBLISHED IN THE APRIL 19, 2021 NEW JERSEY REGISTER. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THIS

TEXT AND THE OFFICIAL VERSION OF THE PROPOSAL, THE OFFICIAL VERSION WILL GOVERN.

ENVIRONMENTAL PROTECTION

AIR QUALITY, ENERGY, AND SUSTAINABILITY

DIVISION OF AIR QUALITY

Advanced Clean Trucks Program and Fleet Reporting Requirements

Proposed Amendment:

N.J.A.C. 7:27A-3.10

Proposed New Rules:

N.J.A.C. 7:27-31 and 33

Authorized By: Shawn M. LaTourette, Acting Commissioner, Department of Environmental

Protection.

Authority: N.J.S.A. 13:1B-3(e), 13:1D-9, 26:2C-1 et seq., particularly 26:2C-8.1 et seq., 26:2C-37

et seq., and 48:25-1 et seq.

Calendar Reference: See Summary below for explanation of exception to calendar requirement.

DEP Docket Number: 05-21-03.

Proposal Number: PRN 2021-036.

A public hearing concerning this notice of rule proposal and the proposed State

Implementation Plan (SIP) revision will be held on May 20, 2021, at 9:00 A.M. The hearing will be

conducted virtually through the Department of Environmental Protection's (Department) video

conferencing software, Microsoft Teams. A link to the virtual public hearing and a telephone call-

in option will be provided on the Department's NJ PACT: Protecting Against Climate Threats

website at https://www.nj.gov/dep/njpact/.

1

Submit comments by close of business on June 18, 2021, electronically at www.nj.gov/dep/rules/comments. Each comment should be identified by the applicable N.J.A.C. citation, with the commenter's name and affiliation following the comment.

The Department encourages electronic submittal of comments. In the alternative, comments may be submitted on paper to:

Alice A. Previte, Esq.

Attention: DEP Docket No. 05-21-03

Office of Legal Affairs

New Jersey Department of Environmental Protection

401 East State Street, 7th Floor

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PO Box 402

Trenton, NJ 08625-0402

If you are interested in providing oral testimony or submitting written comments at the virtual public hearing, please email the Department at monica.miranda@dep.nj.gov no later than 5:00 P.M. on May 17, 2021, with your contact information (name, organization, telephone number, and email address). You must provide a valid email address, so the Department can send you an email confirming receipt of your interest to testify orally at the hearing and provide you with a separate option for a telephone call-in line if you do not have access to a computer that can connect to Microsoft Teams. Please note that the Department will take oral testimony at the hearing in alphabetical order of the testifying person's last name. Further, this hearing will

2

be recorded. It is requested (but not required) that anyone providing oral testimony at the public hearing provide a copy of any prepared remarks to the Department via email.

The proposed new rules and amendments will become operative 60 days after they are adopted by the Commissioner of the Department (see N.J.S.A. 26:2C-8). This notice of proposal may be viewed or downloaded from the Department's website at www.nj.gov/dep/rules.

The agency proposal follows:

Summary

As the Department has provided a 60-day comment period on this notice of proposal, this notice is excepted from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5.

The Department is proposing new rules, as part of a comprehensive strategy, to implement relevant provisions of the Global Warming Response Act (GWRA), N.J.S.A. 26:2C-37 et seq. The GWRA requires New Jersey to reduce greenhouse gas emissions and short-lived climate pollutants. Specifically, greenhouse gas emissions must be reduced to 80 percent less than the 2006 level of Statewide greenhouse gas emissions by 2050 (80x50 goal). As part of an overall strategy to meet the 80x50 goal, Governor Murphy issued Executive Order No. 100 (2020) (EO No. 100), which directs the Commissioner of the Department to, among other things, reform and modernize the Department's air and land use rules to mitigate the effects of climate change and to gather information to inform future climate-related rulemaking. In

response to EO No. 100, then-Commissioner McCabe issued Administrative Order 2020-01 (2020) (AO No. 1), https://www.nj.gov/dep/njpact/, which directs the Department to propose rules that reduce emissions of carbon dioxide (CO₂) and short-lived climate pollutants, as well as identify the rules and programs that should be updated to better respond to the challenges presented by climate change. Accordingly, the Department will propose multiple sets of rules, including rulemakings from the Division of Air Quality that are intended to reduce CO₂ and short-lived climate pollutants from the transportation, electric generation, and commercial and industrial sectors.

Through this rulemaking, the Department will reduce emissions of CO₂ and other climate pollutants from the transportation sector by incorporating by reference California's Advanced Clean Trucks (ACT) regulation, which will 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, this rulemaking will require a one-time reporting in order to obtain information that will inform future decisions concerning further emission reductions from the transportation sector. The Department held stakeholder meetings on February 25, 2020, and September 10, 2020, to discuss this proposed rulemaking. The public information meeting materials are available on the Department's website at https://www.nj.gov/dep/njpact/.

The portions of the Summary that follow are organized by topic; consequently, some provisions of the new rules, such as the definitions, may be discussed in several places in the Summary.

Global Warming Response Act, 2019 Energy Master Plan, and 2050 Report

In 2007, New Jersey's Legislature passed the GWRA, which recognized that climate change, primarily caused by emissions of heat-trapping greenhouse gases, poses a threat to the earth's ecosystems and environment. See N.J.S.A. 26:2C-38. Additionally, the Legislature recognized that reducing emissions of greenhouse gases was not only possible, but necessary, to prevent further detrimental impacts on human, animal, and plant life. *Id.* A dozen years later, the Legislature amended the GWRA to acknowledge the role that short-lived climate pollutants play in climate change and to require the State to develop programs to reduce emissions of both greenhouse gases and short-lived climate pollutants through a comprehensive strategy. See P.L. 2019, c. 197. The GWRA's two long-term goals are to reduce greenhouse gas emissions to the 1990 level of Statewide greenhouse gas emissions by 2020 (2020 goal), and to achieve the 80x50 goal.

The State achieved the GWRA's 2020 goal for a reduction in emissions to 1990 levels principally through ongoing efforts to reduce emissions in the electric generation sector. See New Jersey Department of Environmental Protection, *Environmental Trends, Greenhouse Gas Emissions Chapter*, September 2020, p. 2, https://www.nj.gov/dep/dsr/trends/ghg.pdf. Reaching the 80x50 goal, however, will require "substantial reductions in [greenhouse gas] emissions in [all sectors, but especially in] the transportation, residential and commercial, and electric generation sectors." New Jersey Department of Environmental Protection, *New Jersey's Global Warming Response Act 80x50 Report*, October 15, 2020, Executive Summary, p. vii, https://www.nj.gov/dep/climatechange/docs/nj-gwra-80x50-report-2020.pdf (2050 Report).

"In 2006, net emissions totaled 120.6 [million metric tons (MMT)] CO₂e, setting the 80x50 net emission goal at 24.1 MMT CO₂e by 2050." *Id.* at p. v. "[Carbon dioxide equivalent (CO₂e)] is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO₂e signifies the amount of carbon dioxide (CO₂) which would have the equivalent global warming impact, based on their relative global warming potential (GWP)." 2050 Report, p. v, Fn 1. In 2018, New Jersey's Statewide emissions were estimated to be 97.0 MMT CO₂e. *Id.* Thus, New Jersey must reduce its annual emissions by roughly 73MMT CO₂e by 2050. Given the breadth of emission reductions required, meeting the 80x50 goal will require planning and collaboration over time and across economic sectors, levels of government, and through public-private ventures. See 2050 Report, Executive Summary; see also 2019 Energy *Master Plan: Pathway to 2050*, Executive Summary,

https://nj.gov/emp/docs/pdf/2020 NJBPU EMP.pdf (2019 EMP).

Recognizing the need for a comprehensive strategy, Governor Murphy directed multiple State agencies to develop or update reports and implement policies to mitigate climate change and strengthen resilience. Pursuant to Executive Order No. 28, the New Jersey Energy Master Plan (2019 EMP) was updated for 2019. The updated 2019 EMP included extensive modeling that resulted in the identification of seven overarching strategies the State should pursue in order to meet the 80x50 goal of the GWRA, as well as the goal of the 100 percent clean energy by 2050 set forth in the 2019 EMP. See 2019 EMP. Pursuant to the GWRA, the Department released the 2050 Report on October 15, 2020. The 2050 Report builds on the 2019 EMP by analyzing New Jersey's emissions reductions to date, evaluating plans presently in place for

further reducing emissions, and presenting a set of strategies across seven emission sectors for policymakers to consider in formulating legislation, rules, policies, and programs to ensure that New Jersey achieves the 80x50 goal. See 2050 Report, Executive Summary, p. v.

Both the 2019 EMP and the 2050 Report highlight the fact that reaching the 80x50 goal and the goal of achieving 100 percent clean energy by 2050 will require transformation in all economic sectors through the collaboration and planning of multiple State agencies, as well as the private sector, over the next three decades. See 2050 Report, Introduction, and Executive Summary; and 2019 EMP, Executive Summary and Conclusion, p. 231. Thus, the strategies and recommendations of the 2019 EMP and 2050 Report are intended to build on one another over time and across sectors. The strategies and recommendations are not intended to be read as a checklist of actions, with each individual rule or policy yielding a quantifiable number of emissions reductions to be credited toward the 73MMT CO₂e emission reductions needed by 2050.

For example, as New Jersey moves toward the increased electrification of buildings and transportation, it must consider multiple factors, including, but not limited to, the added demand for electric supply; the sources of electricity generated in New Jersey and for use in New Jersey through the regional transmission organization, known as PJM; emerging technologies; and the costs associated with technologies and infrastructure. Of course, each of these factors is variable, which requires that reporting and modeling be updated periodically. For this reason, the Board of Public Utilities and the Department, in collaboration with multiple other State agencies, will regularly update the strategies and recommendations in the 2019

EMP and the 2050 Report to consider: the State's progress in reducing emissions; current modeling; emerging pathways and technologies; and a reassessment of priorities. See 2050 Report, Introduction, p. 3; 2019 EMP, Executive Summary, p. 18. Until then, the proposed rules will serve as one of the initial steps New Jersey will take toward meeting the 80x50 goal.

Advanced Clean Trucks Program, N.J.A.C. 7:27-31

General

The 2050 Report observed that while it will be important to reduce greenhouse gas emissions in all sectors, reductions in the transportation, residential and commercial, and electric generation sectors, in particular, are needed to meet the 80x50 goal. Indeed, of the estimated 97.0 MMT of CO₂e emissions in the 2018 New Jersey Statewide inventory, 40.6 MMT were attributed to the transportation sector. See 2050 Report, p. 11. For that reason, the 2050 Report enumerates ongoing efforts by multiple State agencies to decrease emissions in the transportation sector by increasing the use of zero-emission technologies, including, but not limited to, efforts to accelerate sales of zero-emissions vehicles (ZEVs) of all weight classes and to increase the number of vehicle charging stations throughout the State. See 2050 Report, pp. 14-16. The 2019 EMP and the 2050 Report also identify pathways to meet the goal of decreasing emissions from the transportation sector; one recommendation is the decarbonization of medium- and heavy-duty vehicles. See 2050 Report, p. 21. The Department proposes new N.J.A.C. 7:27-31, Advanced Clean Trucks Program, to further this goal. The proposed rules incorporate by reference the portions of the California ACT regulation, found at 13 CCR 1963.0 et seq., in the California Code of Regulations (CCR) that 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 future medium- and heavy-duty vehicle sales by certain manufacturers to be zero-emission vehicles.

Pursuant to the proposed rulemaking, each manufacturer selling medium- and heavy-duty vehicles in New Jersey is required to generate enough credits to offset its deficits. Credits may be generated through direct sales of a manufacturer's own ZEVs in New Jersey.

Alternatively, a manufacturer that sells medium- and heavy-duty vehicles in New Jersey could offset its deficits in a given year by purchasing (or otherwise obtaining) ZEV credits generated by another manufacturer's sales of ZEVs in New Jersey. The deficits attributable to a manufacturer are based on the total number of its sales of medium- and heavy-duty vehicles in New Jersey. As set forth in the proposed rulemaking, the deficits incurred each year that must be offset by credits will begin in 2025, and increase every year through 2035, thereby increasing the total number of ZEV sales in the State. Accordingly, the proposed rulemaking is a necessary component of a comprehensive approach to reduce emissions from the transportation sector.

The California Air Resources Board (CARB) adopted the ACT regulation "to accelerate the widespread adoption of zero-emission vehicles (ZEVs) in the medium-and heavy-duty truck sector." CARB, Staff Report: Initial Statement of Reasons, October 22, 2019 (CARB ISOR), https://ww2.arb.ca.gov/rulemaking/2019/advancedcleantrucks; 13 CCR 1963(a). As described above, the first part of the ACT regulation requires an increasing percentage of future medium-and heavy-duty vehicle sales by certain manufacturers to be ZEVs. The second part includes reporting requirements for medium- and heavy-duty vehicles to inform prospective emission

reduction strategies. See CARB ISOR, p. ES-3. The Department notes that the CARB documents associated with the proposal and adoption of the ACT regulation frequently refer to "medium-and heavy-duty vehicles." Though the Department's proposed rulemaking does not define, or use, the term medium- and heavy-duty vehicles, the Department uses this catchall phrase throughout this rulemaking in the same manner it is used in the relevant CARB regulatory documents. Specifically, medium- and heavy-duty vehicles encompass all vehicles with a gross vehicle weight rating over 8,500 pounds.

Proposed N.J.A.C. 7:27-31.2, Purpose, and 31.4, Incorporation by reference, make clear that the Department is proposing to incorporate by reference only those portions of the ACT regulation pertaining to the requirements that manufacturers increase their sales of zero-emission medium- and heavy-duty vehicles. With respect to this portion of the ACT regulations, the Department intends to establish a regulatory program in New Jersey with an identical purpose to California's ACT regulation that will be enforceable when California receives a waiver from the EPA for its ACT regulations, and that waiver is published in the Federal Register. Specifically, the proposed New Jersey ZEV sales requirements, incorporating by reference 13 CCR 1963.1, applies to all manufacturers that sell vehicles in New Jersey in weight Classes 2b-3 through 8, except that manufacturers with fewer than 500 annual medium- and heavy-duty vehicle sales in New Jersey are exempt, as set forth at 13 CCR 1963(e).

Pursuant to 13 CCR 1963.2, which the Department proposes to incorporate by reference as part of the New Jersey ACT program, regulated manufacturers incur deficits for each medium- and heavy-duty vehicle sold into New Jersey. As set forth at 13 CCR 1963.1(b), deficit

calculations in New Jersey are based upon sales percentages that increase annually pursuant to the sales percentage schedule at Table A-1. The deficits must be offset by retiring credits that can be generated by producing and selling ZEVs or near-zero-emission vehicles (NZEVs).

Pursuant to proposed N.J.A.C. 7:27-31.3, Applicability, New Jersey's rules will differ from California's only to the extent that deficits would not begin to be incurred until the 2025 model year (MY), and manufacturers could not begin to generate credits prior to the 2024 MY.

N.J.A.C. 7:27-31.4, Incorporation by reference

As noted above, the Department is incorporating a portion of California's ACT regulation by reference in order to implement a nearly identical program in New Jersey. Proposed N.J.A.C. 7:27-31.4, Incorporation by reference, identifies the specific provisions of the CCR that are to be incorporated by reference into this new subchapter, as well as the minor language changes necessary to effectively implement the program in New Jersey.

To maintain consistency with the relevant provision of the CCR, proposed N.J.A.C. 7:27-31.4 dictates prospective incorporation by reference of the California regulation. This means that upon the operative date of the Department's rules or the operative date of California's ACT regulation, whichever is later, all amendments, supplements, repeals, or other changes California makes to the incorporated rule shall also be effective in New Jersey on the effective date cited by California. Additionally, the Department intends that when an applicable provision of the CCR is incorporated by reference, the incorporation includes all documents and notes associated with that provision, unless specifically excluded by the Department's rules.

Equally important, proposed N.J.A.C. 7:27-31.4 provides that if there is an inconsistency between the New Jersey rules and the California rules incorporated by reference, the California rules control. Of course, the incorporation by reference of the California regulation does not affect the Department's authority to enforce any other State requirements.

Proposed N.J.A.C. 7:27-31.4 incorporates by reference 13 CCR 1963, 13 CCR 1963.1, 13 CCR 1963.2, 13 CCR 1963.3, 13 CCR 1963.4, and 13 CCR 1963.5. As set forth at proposed N.J.A.C. 7:27-31.4(g), (h), (i), and (j), the Department has revised specific text from the list of CCR provisions to be incorporated by reference, where necessary, to indicate New Jersey-specific program requirements. For example, language in the CCR referencing "California," "executive officer," and "CARB" is replaced with "New Jersey" and "Department" where necessary to specify the appropriate reporting and enforcement authority. The reference to penalty provisions in California's Health and Safety Code is likewise replaced with a citation to the corresponding penalty provisions in the Department's Administrative Code at N.J.A.C. 7:27A-3. Additionally, model year "2021," as it pertains to the generation, banking, and trading of credits is revised to reflect model year "2024" as discussed further below.

N.J.A.C. 7:27-31.1, 31.2, and 31.3, Advanced Clean Trucks Purpose, Applicability, Definitions, and General Requirements, 13 CCR 1963

Proposed N.J.A.C. 7:27-31.2, Purpose, indicates the Department's intent to adopt a regulatory program in New Jersey with a purpose identical to California's ACT regulation. The Department's incorporation by reference at N.J.A.C. 7:27-31.4 includes California's stated

purpose, at 13 CCR 1963, to reduce emissions of greenhouse gases, oxides of nitrogen (NO_x), and fine particles (PM2.5) through the acceleration of ZEV sales. Once the ACT program is implemented in New Jersey, the Department anticipates that the increase in ZEV and NZEV medium- and heavy-duty vehicles in New Jersey will result in significant reductions of greenhouse gases and other air pollutants as discussed in the Environmental Impact below.

Pursuant to 13 CCR 1963, California's ACT regulation applies to any vehicle manufacturer who certifies vehicles over 8,500 pounds GVWR for sale in California. Proposed N.J.A.C. 7:27-31.3 and 31.4 clarify that the applicability in New Jersey includes any vehicle manufacturer who produces vehicles over 8,500 pounds GVWR for sale in New Jersey, except that: (1) 13 CCR 1963(e) (incorporated by reference into the proposed rules) exempts manufacturers from the deficit requirements if their annual sales in a given year do not exceed 500 medium- and heavy-duty vehicles; and (2) regulated manufacturers in New Jersey will not begin to accrue deficits prior to model year 2025. The Department proposes a delayed model year applicability date to ensure compliance with the two-year lead time requirement at Section 177 of the Clean Air Act, 42 U.S.C. § 7505. In the event that the adoption of these rules is not finalized in order to be operative by January 1, 2022, the Department will modify the rules on adoption to commence with model year 2026.

The ACT regulation, at 13 CCR 1963, defines specific terms that are used throughout the California rule. These definitions generally pertain to the types and classes of vehicles subject to the regulation (or excluded from the regulation). These terms include "class 2b-3" through "class 8," "excluded bus," "near-zero-emission vehicle," "tractor," "vehicle," "yard tractor," and

"zero-emission vehicle." The ACT regulation defines each class of vehicle (Class 2b-3 through 8) by its GVWR in pounds. For example, Class 2b-3 encompasses any on-road vehicle with a GVWR that is between 8,501 and 14,000 pounds. This provision of the regulation also defines "class groups," which group together one or more classes of vehicles based on their weight and whether they are classified as tractor or non-tractor. ZEVs are defined broadly to encompass any vehicle technology that produces no greenhouse gases or criteria pollutant exhaust emissions. The ACT regulations define NZEVs to include only those vehicles that employ battery technology to reduce their emissions.

The ACT regulation, at 13 CCR 1963, also defines technical terms, such as "all-electric range," "gross vehicle weight rating," and "model year." These terms are necessary to clarify the ACT program's scope and vehicle certification requirements. Likewise, basic terms necessary to establish the mechanics of the regulatory program, such as "manufacturer," "NZEV credit," and "ZEV credit" are defined. The Department proposes to incorporate the ACT regulation's definitions by reference pursuant to N.J.A.C. 7:27-31.4, but also proposes to define New Jersey-specific terms at N.J.A.C. 7:27-31.1, Definitions. The proposed definitions of acronyms "GVWR," "NZEV," and "ZEV" are duplicative of definitions of "gross vehicle weight rating," "near-zero-emission vehicle," and "zero-emission vehicle" at 13 CCR 1963, and are provided in order that the Department's proposed rules can refer to acronyms throughout the rule text. Additionally, the Department proposes to define "California Air Resources Board," "CCR" and "Department," since those terms do not appear in the California regulation, but are necessary to distinguish between California and New Jersey provisions; additionally, for the

same reason, the Department notes that where "State" is used in the proposed rules, it refers to the State of New Jersey pursuant to the Office of Administrative Law Code's standards.

Finally, based on the Department's prior experience implementing its Low Emission Vehicle program, N.J.A.C. 7:27-29, the proposed rules define two additional terms to avoid ambiguity in interpreting and applying the California ACT regulation being incorporated by reference. Specifically, 13 CCR 1963.2 provides in relevant part, "A manufacturer may generate ZEV credits for each ZEV produced and delivered for sale in California for the manufacturerdesignated model year. ZEV credits are earned when a new on-road vehicle is sold to the ultimate purchaser in California." The Department proposes to define "person" and "ultimate purchaser" consistent with CARB's rationale that credits should not be given for vehicles that are merely sitting on dealer lots; credits will be earned only when the vehicle is sold to a person in good faith, for purposes other than resale. See CARB, Proposed Amendments to The Proposed Advanced Clean Trucks Regulation, p. 10, April 28, 2020 (https://ww3.arb.ca.gov/regact/2019/act2019/30daynotice.pdf) (CARB 30-day notice). The proposed definition of "ultimate purchaser" excludes dealers or other entities whose only interest in the vehicle is for resale. "Person" is defined because it appears in the proposed definition of ultimate purchaser.

Advanced Clean Trucks Deficits, 13 CCR 1963.1

The Advanced Clean Trucks program operates through a system of credits and deficits.

As set forth at 13 CCR 1963(d), General requirements, proposed to be incorporated by reference, a manufacturer must retire ZEV or NZEV credits equal to or exceeding the deficits

they accrue for each model year. As set forth at 13 CCR 1963.1, proposed to be incorporated by reference, regulated manufacturers incur deficits based on the manufacturer's annual sales volume of medium- and heavy-duty on-road vehicles produced and delivered for sale in California beginning with model year 2024. As explained above, under the Summary of proposed N.J.A.C. 7:27-31.3, deficits will not begin to accrue for manufacturers subject to proposed N.J.A.C. 7:27-31 prior to model year 2025. Other than the delayed implementation date, the deficit calculation through the Department's proposed rules are identical to the ACT regulation. As set forth at 13 CCR 1963.1, the deficit for each vehicle sold is calculated based on multiple variables, including model year, vehicle weight class group, and whether the vehicle is considered a tractor. The number of deficits each manufacturer incurs increases from model year 2025 until model year 2035, for class 2b-8 non tractors, and from model year 2025 until model year 2032 for class 7 and 8 tractors. The heavier weight classes of vehicles incur more deficits, based on a weight class modifier. CARB explained that the "weight class modifiers are adjustment factors that were selected to keep credits and deficits approximately equitable from an emissions standpoint," since heavier vehicles are associated with higher emissions. CARB ISOR, p. 44. The weight class modifiers vary from 0.8 for the lightest vehicles to 2.5 for the heaviest. The Tables, at 13 CCR 1963.1, are incorporated by reference and provide the applicable ZEV sales percentage schedule based on model year, class group, and weight class modifiers.

Advanced Clean Trucks Credit Generation, Banking, and Trading, 13 CCR 1963.2

To remain in compliance with the rules, a regulated manufacturer must retire credits equal to or exceeding the deficits it accrues. The proposed rules provide several options for retiring credits. See 13 CCR 1963.2, proposed to be incorporated by reference. One option is for a manufacturer to generate credits from selling ZEVs or NZEVs. As set forth at 13 CCR 1963.2(a) and (b), ZEV and NZEV credits are earned only when a new on-road vehicle is sold to the ultimate purchaser. This means that vehicles delivered for sale in New Jersey, but not yet registered to an ultimate purchaser in New Jersey, would not qualify for ZEV or NZEV credit under the proposed Advanced Clean Trucks Program. As with the accrual of deficits, the credit value that may be earned for the sale of a ZEV is tied to the vehicle's weight class, as set forth in Table A-2 at 13 CCR 1963.1. As explained by CARB, "this approach provides flexibility for manufacturers to produce more ZEVs in one group to avoid making a small number of ZEV sales in other groups." CARB ISOR, at III-9. It is important to note that credit calculations for NZEV sales differ from ZEV credit calculations. So, for example, credit for an NZEV sale is discounted based on the all-electric range of the vehicle. Further, the value of an NZEV credit is not permitted to exceed 75 percent of the credit calculated for a ZEV of the equivalent class. If a manufacturer is unable to generate enough credits to offset its deficits from direct sales, the manufacturer may trade and/or purchase credits from another manufacturer. Furthermore, a manufacturer may bank credits for future use. However, banked credits will have a limited lifetime, which is based upon the model year as set forth at 13 CCR 1963.2.

Though California's ACT regulation allows credits to be banked as early as 2021, proposed N.J.A.C. 7:27-31.3 and 31.4(j) provide that early credits may not be banked sooner

than the 2024 model year. The Department has determined that it would be preferable to accept only those credits from ZEVs that have been certified pursuant to California's zero-emission powertrain certification procedures that will go into effect in 2024. Additionally, the Department is incentivizing the purchase of medium- and heavy-duty ZEVs sold in New Jersey between 2021 and 2024 by providing grants to the ultimate purchasers of medium- and heavy-duty ZEVs from the Volkswagen Mitigation Trust Fund and auction proceeds from the Regional Greenhouse Gas Initiative. Since the incentive funding will stimulate the purchase of medium- and heavy-duty vehicles produced by regulated manufacturers, the Department does not believe that it is also necessary to allow credits to be generated from these subsidized purchases. See CARB ISOR, pp. IX-1 to -2. Of course, under the California regulations proposed to be incorporated by reference, manufacturers are prohibited from double counting credits. Specifically, sales of Class 2b-3 vehicles that are eligible to earn credits under the ACT regulation and another program can be used to generate credits under only one program.

Advanced Clean Trucks Compliance Determination, 13 CCR 1963.3

Pursuant to 13 CCR 1963.3, proposed to be incorporated by reference, an annual compliance determination is made based upon model year credits and deficits. Specifically, a manufacturer must retire enough credits to offset the deficits incurred in a given model year. As noted above, excess credits generated in a given model year may be banked for future use, starting in 2024. However, credits must be retired in the order of model year expiration, since banked credits have a limited life. In other words, credits for older model years must be retired before credits for newer model years. In addition, credits must be retired in order of their credit

type and weight class group, as specified at 13 CCR 1963.3(c). If a manufacturer is unable to retire credits in an amount at least equal to its deficits, the manufacturer is required to make up the deficit in the next model year; however, the carry-over deficit cannot be satisfied with NZEV credits. Other compliance requirements related to tractor volume, NZEVs, and tractor deficits are detailed at 13 CCR 1963.3, which the Department proposes to incorporate by reference with no changes.

Advanced Clean Trucks Reporting and Recordkeeping, 13 CCR 1963.4

The California ACT regulation, at 13 CCR 1963.4, proposed to be incorporated by reference, specifies the information regulated manufacturers must report. For manufacturers selling vehicles in California, reports must be submitted starting with model year 2021. Pursuant to N.J.A.C. 7:27-31.3 and 31.4(j), reports submitted by manufacturers selling vehicles in New Jersey will start with model year 2024 since New Jersey will not allow manufacturers to generate credits prior to model year 2024. The Department proposes to incorporate by reference the remainder of 13 CCR 1963.4, which details the mechanics of the reporting credit transfers and declarations, timelines, and retention requirements, with no changes.

Advanced Clean Trucks Enforcement, 13 CCR 1963.5

Pursuant to 13 CCR 1963.5, proposed to be incorporated by reference, a manufacturer may be subject to an audit of its records of vehicle sales, and those records identified at 13 CCR 1963.5(a)(3) will be open to the public for inspection. If the Department determines that information used to obtain a credit was false, the credit will be invalidated. In addition,

violations of the annual compliance determination are subject to penalties. Pursuant to N.J.A.C. 7:27-31.4(i), the applicable penalty provisions may be found at proposed amended N.J.A.C. 7:27A-3.10.

N.J.A.C. 7:27-33, Fleet Reporting Requirements

As discussed above, the Department proposes to incorporate by reference the provisions of California's ACT regulation that require an increasing percentage of future medium- and heavy-duty vehicle sales by certain manufacturers to be ZEVs. In addition to the ZEV sales requirement for manufacturers, the ACT regulation included a second component described as a "one-time reporting of information from large entities including retailers, manufacturers, and government agencies, about contracted services requiring the use of trucks and shuttles in addition to their medium- and heavy-duty vehicle fleet [and] information about cars from these same fleets to inform similar strategies to accelerate light-duty ZEV adoption." CARB ISOR, p. ES-3. The Department does not propose to incorporate by reference the second part of California's ACT regulation regarding a one-time reporting requirement. The Department is, however, proposing new N.J.A.C. 7:27-33, Fleet Reporting Requirements, which are largely based on, and in some places identical to, the text of the reporting requirements in California's ACT regulation.

Like California's ACT regulation reporting requirements, pursuant to proposed N.J.A.C. 7:27-33.2, Purpose, the purpose of the Department's proposed new subchapter is to gather information about the operations of entities that own and/or use medium- and heavy-duty vehicles in the State, so that the Department will be better informed if it takes future actions to accelerate the sale and use of zero-emission vehicles in the medium- and heavy-duty weight

classes. As explained by the CARB, the fleet reporting portion of the ACT regulation may lead to complementary regulations that "ensure that fleets purchase [the zero-emission vehicles required to be manufactured under ACT] and place them in service where suitable to meet their needs." CARB, Advanced Clean Trucks Fact Sheet, last updated June 25, 2020 (https://ww2.arb.ca.gov/sites/default/files/2020-06/200625factsheet ADA.pdf), and the reporting from large entities that is required by the ACT regulation will help determine which entities "could become the point of regulation ... and help ... determine any appropriate exemptions and flexibilities" necessary for future rules. CARB ISOR, p. ES- 3. Accordingly, the Department is proposing a similar one-time fleet reporting requirement with many of the same components contained in the reporting requirements of California's ACT regulation. While there are many similarities, as outlined below, there are also a few key differences between the reporting requirements of California's ACT regulation and the Department's proposed rules. *N.J.A.C. 7:27-33.3, Applicability*

Pursuant to N.J.A.C. 7:27-33.3, Applicability, only those entities falling within the five categories are required to submit a report. Three of those categories include large entities. Although "large entity" is not a defined term, the Department's proposed rules will take the same approach as the reporting requirements of California's ACT regulation by including in the large entity category (1) State and local government agencies; (2) Federal government agencies; and (3) large for-profit and non-profit enterprises, such as retailers, manufacturers, restaurants, refuse companies, and other types of large employers. Applicability under these three categories

is also conditioned on the entity having one or more vehicles over 8,500 pounds GVWR operating in New Jersey.

At proposed N.J.A.C. 7:27-33.1, Definitions, the Department defines "government agency" as any government agency or public entity with taxing authority, which is comparable to the definition in California's ACT regulation. The proposed definition of "local government" is based on New Jersey statutes that confer contracting authority on local municipal and county governments, public schools, and county colleges. In terms of the for-profit and nonprofit large employers that will be required to report pursuant to proposed N.J.A.C. 7:27-33.3, there is no definition. Rather, entities "with gross annual revenues greater than \$50 million in the United States for the 2021 tax year, including revenues from all subsidiaries, subdivisions, or branches, that operated a facility in New Jersey in 2021 and had one or more vehicles over 8,500 pounds GVWR under common ownership or control that were operated in New Jersey in 2021" will be required to report. This language is identical to the corresponding applicability provision in California's ACT regulation, except that references to California have been replaced with references to New Jersey. Further, to ensure there is no confusion about the entities intended to be captured under the proposed subchapter, the Department proposes to define "subsidiary," "facility," "common ownership or control," and "gross annual revenue" the same as in California's ACT regulation.

"Gross vehicle weight rating" or "GVWR" is a defined term that allows the Department to specify the vehicles for which it is collecting information. "GVWR" means the value specified as the maximum design loaded weight. The proposed definition of "weight class bin" divides the

classes of vehicles over 8,500 pounds into weight classes starting with "class 2b-3," which are vehicles that have a GVWR between 8,501 and 14,000 pounds, and ending at "class 7-8," which are vehicles that have a GVWR greater than 26,000 pounds. The proposed definitions of the classes are based upon California's ACT regulation.

The other two categories of entities the Department seeks to collect information from are fleet owners with 50 or more vehicles with a GVWR over 8,500 pounds that operate a facility in New Jersey, and brokers that dispatch 50 or more vehicles with a GVWR over 8,500 pounds that operate a facility in New Jersey. The Department is proposing to adopt definitions for the terms "fleet" and "fleet owner," as set forth in California's ACT regulation, excluding the Californiaspecific references. The proposed definition of "fleet" clarifies that a fleet includes vehicles under common ownership or control. And both definitions ("fleet" and "fleet owner") underscore the fact that the fleet reporting rules are applicable to rented or leased vehicles, as well as owned vehicles. Indeed, the definition of "fleet owner" specifies when the lease holder or the lessee is responsible for submitting a report. The Department proposes to define the term "broker" as a person who has broker authority from the Federal Motor Carrier Safety Association and, for compensation, arranges, or offers to arrange, the transportation of property by an authorized motor carrier. While this is similar to the definitions set forth in California's ACT regulation, the Department proposes to separately define "motor carrier," rather than combine the two terms. A "motor carrier" is defined as a person that transports passengers or property for compensation. A motor carrier, or person who is an employee or bona fide agent of a carrier, is not a broker when it arranges or offers to arrange the transportation of shipments that it is authorized to

transport and that it has accepted and legally bound itself to transport. Finally, "facility" is defined the same as in California's ACT regulation. The proposed term "facility category" includes numerous categories of a facility's primary purpose, as discussed at greater length below, and is based on the text of California's ACT regulation. The proposed definitions at N.J.A.C. 7:27-33.1 ensure the applicability provisions are New Jersey-specific and maintain consistency with California's reporting requirements pursuant to the ACT regulation.

Proposed N.J.A.C. 7:27-33 also follows the ACT regulation format by specifying those entities, facilities, or vehicles that are exempt from the reporting requirement. However, the proposed rules depart from the ACT regulation in that the proposed rules do not exempt schools, school districts, or transit agencies from the reporting requirements. Unlike CARB (see CARB ISOR p. IV-24), the Department has not collected sufficient data on these entities' operations previously. Thus, the data submitted by these entities pursuant to the proposed rules would be a new data set, which will help to inform future rulemaking or policy decisions. In addition, unlike CARB, the Department has not exempted light-duty vehicles from the reporting requirements of transportation network companies. As will be discussed below, the Department does not intend to collect any information regarding light-duty vehicles; therefore, there is no reason to provide an exemption. The proposed rule exempts military tactical vehicles, vehicles awaiting sale, and emergency vehicles -- exemptions that are identical to California's ACT regulation. Based on these exemptions, the proposed definitions of "vehicles awaiting sale" and "emergency vehicle" correspond to the definitions in California's ACT regulation, except that the Department has omitted the California-specific references.

N.J.A.C. 7:27-33.4, General Requirements

Like California's ACT regulation, the Department's proposed N.J.A.C. 7:27-33.6, General entity information reporting, outlines the general requirements for entities that must submit a report under the proposed subchapter. The most notable difference between the proposed rule and California's ACT regulation is the date of that data to be collected. The California ACT regulation was adopted in 2020 and seeks to collect data from 2019. Because the proposed new rules are not anticipated to be operative until late 2021 or 2022, data from 2019 would be stale. Further, the Department determined it would not be appropriate to rely on data from 2020, given the effect of the COVID-19 pandemic on the economy. Thus, the Department proposes to collect data from calendar year 2021, in order to gather information that it believes will more accurately represent the operations of these entities moving forward. The proposed submission date is April 1, 2022, to allow time for entities to gather the data from the previous tax year.

Additionally, proposed N.J.A.C. 7:27-33.4 contains requirements for reporting methods. The Department intends to collect data electronically through a web portal. The portal will provide an electronic form of questions with data fields to be completed by each reporting entity. As with California's ACT regulation, the information submitted will be public, though the Department's rules do allow for a claim of confidentiality to be made pursuant to the procedures set forth at N.J.A.C. 7:27-1. Because the rules recognize that some vehicles are held under common ownership or control and/or may be held under a corporate structure that includes joint venture or parent/subsidiary relationships, the proposed rules allow one entity to submit a single report for all of the commonly owned and/or controlled vehicles, or allow each entity to report

independently, so long as all vehicles are covered by the various reports. The proposed rules also include definitions for the terms "corporate parent" and "subsidiary," which mirror the definitions in California's ACT regulation, so that there is no ambiguity about the entities subject to the fleet reporting requirements. Finally, proposed N.J.A.C. 7:27-33.4 makes clear that entities with brokerage and/or motor carrier authority that are subject to the subchapter must submit a report, even if they do not own the vehicles.

N.J.A.C. 7:27-33.5, Recordkeeping requirements

Consistent with other air rules at N.J.A.C. 7:27, proposed N.J.A.C. 7:27-33.5 requires entities that submit reports to retain the records, including any data and analysis relied on to compile the report, for a period of five years after submission and to respond to requests from the Department for clarification within 14 days.

N.J.A.C. 7:27-33.6, General Entity Information Reporting

Proposed N.J.A.C. 7:27-33.6, General entity information reporting, lists the basic identifying information each entity will be required to report. This information includes, but is not limited to, business name; responsible official information; taxpayer identification number; total revenue; the type of operational authority (that is, broker or motor carrier), if applicable; the number of contracts, if directly performing work or if delegating work to a third party; and the quantity of vehicles owned and operated in New Jersey without a home base in the State. The categories of information sought in this segment of the reporting requirements generally mirror the corresponding section of California's ACT regulation, but there is a difference regarding the Department's use of the term "responsible official." Specifically, the Department

does not define "responsible official" at proposed N.J.A.C. 7:27-33.1, because the term is defined at existing N.J.A.C. 7:27-1.4, Definitions, which applies to the entire chapter. The existing definition is similar to the California definition. Entities subject to the proposed subchapter should be aware of the existing definition and longstanding special obligations of a responsible official pursuant to N.J.A.C. 7:27-1, General Requirements, when submitting information to the Department. The proposed rules define "business" and "person," since the proposed reporting requirements reference both. The Department proposes to define both terms broadly, as the information the Department seeks to collect should be comprehensive.

N.J.A.C. 7:27-33.74, Vehicle Usage By Facility Information Reporting

Proposed N.J.A.C. 7:27-33.7, Vehicle usage by facility information reporting, is modeled on the corresponding section in California's ACT regulation, 13 CCR 2012.2. The proposed rule specifies the detailed vehicle and facility information that the Department will collect under fleet reporting requirements. As noted above, the goal of the proposed fleet reporting requirement is to gather information about the use of medium- and heavy-duty vehicles in New Jersey (whether owned or operated), so that the Department will be better informed if it decides to take future actions, such as the promulgation of rules that require fleet owners, brokers, and/or large entities to purchase ZEVs. To this end, proposed N.J.A.C. 7:27-33.7 is broken down into two principal subsections: (1) information pertaining to each vehicle's home base (N.J.A.C. 7:27-33.7(b)); and (2) information pertaining to the vehicles operated from each vehicle's home base (N.J.A.C. 7:27-33.7(c)). Proposed N.J.A.C. 7:27-33.7(a) does not include a specific request for information. Instead, N.J.A.C. 7:27-33.7(a) provides general direction concerning the type of information being

sought in subsections (b) and (c), as well as the method of reporting when a vehicle operated in New Jersey is not assigned to a particular location in New Jersey.

To enable it to better understand the basic operations of medium- and heavy-duty fleets in New Jersey, the Department proposes to collect information on each vehicle's home base. The proposed definition of "vehicle home base" is the same as the definition of the term in the California's ACT regulation. Specifically, the Department seeks information about where the reporting entities are parking their medium- and heavy-duty vehicles when they are not in use. For this information to be useful, the Department needs greater detail than a street address. Accordingly, the proposed rule asks for information pertaining to the nature of the vehicle's home base, by requiring the entity to report on the type of facility that serves as the vehicle's home base. The Department proposes to define "facility" and "facility category" identical to the definitions of those terms in California's ACT regulation. While "facility" refers to a physical address, "facility category" provides context. The information provided will illustrate which medium- and heavy-duty vehicles are being parked (and, therefore, starting and ending their daily operations) at warehouses, restaurants, hospitals, truck yards, or other establishments. In addition, the reporting entity will be required to provide information regarding the fueling infrastructure (if any) at the vehicle's home base locations, and whether there are trailers present at facilities being used as the vehicle home base for a tractor.

The second principal area of information that proposed N.J.A.C. 7:27-33.7 focuses on gathering is the types of vehicles being housed at the vehicle home base. Like California's ACT regulation, the proposed rule requires that the entity submit information that includes vehicle

body type, weight class bin, and fuel type. The entity reporting can choose to enter the information for each individual vehicle or use one of the three categories (body type, weight class, fuel) to group the vehicles for purposes of information submission. The proposed definition of "vehicle body type" is identical to the definition in California's ACT regulation. The proposed definition of "weight class bin" is almost identical to the definition in the California ACT regulation, but the Department has excluded the "light duty" weight class bin, because the Department has chosen to limit its data collection to medium- and heavy-duty vehicles. The proposed rule requires the entity to report information for a vehicle or vehicle group expressed as of a percentage of that group meeting certain criteria. The criteria include, but are not limited to, daily mileage, annual mileage, on-site refueling, trailer towing, GPS tracking, hours on-site, and age of vehicles.

When responding to questions about vehicle mileage, reporting entities are not to include "backup" vehicles (that is, vehicles not used in everyday or seasonal operations) in the calculations. The proposed definition of "backup vehicle" is the same as the definition of the term in the California ACT regulation.

Additionally, entities may respond to questions concerning mileage based on annual or quarterly data. If an entity believes that a period shorter than quarterly should be used for analysis, the entity will be required to describe the reasoning for the alternative period of analysis. Brokers are only required to report vehicle usage that is dispatched under contract. Here too, the Department has proposed a definition for "dispatched" that mirrors the text of

California's ACT regulation. When dispatched, a vehicle has a specific purpose or destination.

Thus, the definition would limit the mileage information that a broker would need to report.

N.J.A.C. 7:27A-3.10, CIVIL Administrative Penalties for Violations of N.J.A.C. 7:27-31 and 33

At N.J.A.C. 7:27A-3.10, the Department proposes new civil administrative penalties for violations of proposed new N.J.A.C. 7:27-31 and 33. Existing N.J.A.C. 7:27A-3.5 authorizes the Department to impose a civil administrative penalty for a violation of any provision of N.J.A.C. 7:27, the Air Pollution Control Act (Act), or any rule promulgated, or administrative order, operating certificate, registration requirement, or permit issued pursuant to the Act, even if the violation is not otherwise included at N.J.A.C. 7:27A.

The proposed penalties at N.J.A.C. 7:27A-3.10(m)31 and 33 are consistent with existing penalties for similar violations of other Department rules. For example, the Department determined that the failure to make records available pursuant to 13 CCR 1963.4, as proposed to be incorporated by reference, and N.J.A.C. 7:27-33.5(a), is similar to the requirement to submit at N.J.A.C. 7:27-29.11(a) and (b).

Under the Grace Period Law, N.J.S.A. 13:1D-125 to 133, a person responsible for a minor violation is afforded a period of time by the Department to correct the violation in order to avoid being subject to a penalty. Based upon the criteria set forth at N.J.S.A. 13:1D-129, the Department has determined which of the proposed penalties at N.J.A.C. 7:27A-3.10(m) are minor, and, thus, subject to a grace period, and which are non-minor, and, thus, not subject to a grace period. Generally, the Department has determined that those violations that do not

result in excess emissions (and, therefore, pose minimal risk to the public health, safety, and the environment), and do not materially and substantially undermine or impair the goals of the regulatory program, are classified as "minor." Under the existing rules, a minor violation can be ineligible for a grace period if the conditions at N.J.A.C. 7:27A-3.10(s) are not met.

Social Impact

The Department anticipates that the proposed rulemaking will have a positive social impact in New Jersey. The proposed new rules and amendments are among the initial steps the Department and other State agencies will take to mitigate the impacts of climate change by reducing greenhouse gas emissions and the other climate pollutants and forcers that are driving climate change, as well as collecting data that will assist the Department in future rulemaking efforts intended to further reduce emissions from the transportation sector. In addition to reducing greenhouse gas emissions, the incorporation by reference of the California ACT regulation is expected to have an ancillary positive social impact by reducing co-pollutants that have an adverse impact on air quality and human health.

Climate Change

The recently released 2020 New Jersey Scientific Report on Climate Change is the Department's first effort to compile scientific material in a comprehensive report detailing both the effects and the impacts of climate change. See New Jersey Department of Environmental Protection. 2020. New Jersey Scientific Report on Climate Change, Version 1.0 (Eds. R. Hill, M.M. Rutkowski, L.A. Lester, H. Genievich, N.A. Procopio) Trenton, NJ 184 pp. While the report

examines climate change at the global and regional level, its purpose is to explain the current and anticipated effects and impacts in New Jersey. See *Id.* at 3. In fact, one of the report's findings is that New Jersey is uniquely vulnerable to climate change due to multiple factors, including its coastal location, population density, and geography. See *Id.*, Executive Summary.

The 2020 Report on Climate Change devoted more than 100 pages to an enumeration of both the effects and the impacts of climate change, which are inextricably linked. Likewise, the social, environmental, and economic impacts of the proposed new rules and amendments, which are intended to mitigate climate change, are interrelated. Rather than recite the more than 100 pages of the 2020 Report on Climate Change detailing the effects and impacts of climate change, which serves as the foundation for the Department's Social, Environmental, and Agricultural Industry impact statements, the Department sets forth a number of highlights below.

Causes of Climate Change

 CO_2 and other naturally occurring greenhouse gases trap heat; thus, these gases absorb some of the sun's solar energy keeping the earth's atmosphere warmer than if those gases were not present. See 2020 Report on Climate Change, pp. 3-5 and 14. Without this warming effect, the earth would be uninhabitable. See *Id.* Based on studies of ice cores from Antarctica, scientists have determined that concentrations of CO_2 in the earth's atmosphere have been fairly stable for 800,000 years. 2020 Report on Climate Change, p. 14-15. Around the time of the Industrial Revolution, however, the level of CO_2 in the atmosphere began to steadily

increase as a result of human activities. *Id*. Concentrations of CO₂ in the earth's atmosphere have gone from a steady rate of around 300 parts per million (ppm) to over 400 ppm. Due to the warming effect of CO₂ and other greenhouse gases, this increase in concentration has increased, and will continue to increase, global temperatures, resulting in climate change. See *Id*. at 15. Climate scientists worldwide agree that the substantial increase in heat-trapping greenhouse gases in the Earth's atmosphere from fossil fuel production and combustion, as well as land degradation are the principal causes of climate change. See *Id*., p. vi. And though CO₂ is the most abundant greenhouse gas, scientists have recently begun to study the role of other short-lived climate pollutants/forcers, such as hydrofluorocarbons, methane, and black carbon in climate change. See *Id*. at 25-26. It is now understood within the scientific community that while these pollutants and forcers tend to have shorter atmospheric lives, they also have much higher warming potentials making them significant contributors to climate change. See *Id*.

Below are just some of the current and anticipated effects of climate change.

Effects of Climate Change

Climate change, resulting from the increase in greenhouse gases and other highly warming climate pollutants and forcers, affects temperature, precipitation, sea-level rise, and ocean acidification. See 2020 Report on Climate Change, p. 28.

The documented increased temperatures driven by climate change will have many impacts, chief among them being "more intense heat waves and less intense cold waves." 2020

Report on Climate Change, p. 34. "Temperature increases are felt more strongly in New Jersey because of the high urbanization of the State, which results in large expanses of asphalt and concrete instead of forests, fields, and other open spaces that can provide cooling effects." *Id.* at viii. Increased temperatures also contribute to increased water vapor in the earth's atmosphere and the warming of oceans. See *Id.* at 36. Though these are not the only factors influencing precipitation patterns, they enhance the conditions for more frequent extreme precipitation events. See *Id.* at 36-42. In New Jersey, the effect may increase flooding or drought conditions, depending on the season and/or local geography. See *Id.*

Warming ocean temperatures and the melting of glaciers and polar ice sheets also contribute to sea-level rise. Indeed, for many reasons, sea-level rise within New Jersey's coastal areas is increasing at a higher rate than globally. See *Id.* at 44. As the seas rise, so too will the number of days New Jersey experiences tidal flooding. See *Id.* at 44-46. Increased levels of CO₂ in the Earth's atmosphere also mean increased levels of CO₂ in the oceans. See *Id.* at 49. As "CO₂ dissolves in seawater, ... a chain reaction [begins] leading to more acidic conditions" known as ocean acidification. *Id.* at 49. This change in the ocean's pH affects the availability of certain minerals, and by extension, the marine species that rely on the existing pH balance for survival. See *Id.* at 49-55.

In short, climate change affects the environment in a variety of ways. As discussed throughout this notice, the effects of climate change on the environment have a multitude of social costs, economic expenditures, and environmental damages. Below are a few of the

impacts that are predicted to occur under low-, moderate-, and high-emissions scenarios set forth in the 2020 Report on Climate Change.

Impacts of Climate Change

Air Quality

The EPA sets national ambient air quality standards (NAAQS) for six criteria pollutants. One of these health-based standards is for ground level ozone. New Jersey is classified as nonattainment for the ozone standard, which means the level of ozone measured at designated monitors around the State exceeds the Federal standards. See 2020 Report on Climate Change, p. 61. "The primary climate change impacts on ozone formation are expected to result from changes to meteorological conditions, often referred to as the ozone-climate penalty." *Id.* at 62. The ozone-climate penalty refers to a phenomenon in which the level of ozone precursors in the atmosphere may remain stable or even decrease, but warming temperatures offset those improvements, such that ozone formation remains unchanged. Thus, the work New Jersey has done, and continues to do, to reduce ozone precursors may be less effective at reducing ground-level ozone as temperatures continue to rise due to greenhouse gas emissions, like CO₂, and short-lived climate pollutants, like black carbon. See *Id.* at pp. 61-62 and 25-26.

Increased concentrations of ground level ozone have been linked to a number of health impacts, including, but not limited to, eye irritation, aggravated asthma and other respiratory distress, and premature death. See *Id.* at 63-64. Additionally, there is some evidence that the health impacts of increased ozone may be elevated when combined with other climate-related

impacts, such as the higher temperatures that occur during heat waves. See *Id.* at 66. This is particularly significant for New Jersey's urban areas where high temperatures are often accompanied by high levels of other local air pollutants. See *Id.* at 66.

Climate change impacts air quality in other ways. The increased heat waves and drought caused by climate change can lead to greater wildfire risk. See 2020 Science Report on Climate Change at p. 67. The particulate matter and other pollutants from wildfires that burn in New Jersey and those that burn in upwind states can negatively impact New Jersey's air quality. See *Id.* at 66-67. Climate change also increases exposure to other aeroallergens, such as pollen (longer growing season), dust particles (droughts and dust storms), and mold (severe weather events). *Id.* at 68-69.

In short, climate change will result in increased respiratory and cardiovascular health problems, particularly among vulnerable populations, such as the very young, very old, and those suffering from asthma or allergic illness. See *Id.* at 61-69.

Water Resources

The effects of climate change (temperature, precipitation, sea-level rise) may impact water quality and supply in New Jersey. See 2020 Report on Climate Change, p. 71. For instance, increasing temperatures translate into longer growing seasons, which leads to higher water demand. Added water use for agriculture could put stress on New Jersey's groundwater resources and diminish the supply. See *Id.* at 71-73. The quality of groundwater sources in New Jersey may also suffer adverse impacts from climate change as increased periods of

precipitation can lead to contamination of groundwater supplies. Similarly, sea-level rise can lead to saltwater intrusion of coastal groundwater supplies causing increased levels of salinity. See *Id.* at 73-75. Water quality concerns extend beyond groundwater supplies. New Jersey's surface water resources may also be threatened by rising air and water temperatures, increased extreme weather events, and sea-level rise, all of which could result in increased salinity, which existing water treatment plants are not designed to handle. See *Id.* at 75.

In sum, climate change may result in a reduction in the amount of water necessary to meet the State's needs and require more extensive resources to treat the remaining water supply.

Agriculture

The effects of climate change, particularly precipitation levels, changes in temperature, and the concentration of CO₂ in the atmosphere, will impact crop and animal farming. See 2020 Report on Climate Change, p. 81. As discussed in greater detail in the Agriculture Industry Impact, insects, weeds, and pathogens are expected to thrive in warmer, wetter weather, which is in stark contrast to the decrease in productivity anticipated for many of New Jersey's crops and livestock, who may be unable to adapt to the environmental effects of climate change. See *Id.* at 81-83. On the whole, climate change is anticipated to have a negative impact on New Jersey's agricultural industry as it may diminish the variety of crops and livestock that are cultivated in New Jersey for sale and consumption both locally and regionally.

The effects of climate change, including precipitation levels, changes in temperature, and the concentration of CO₂ in the earth's atmosphere, have already begun to impact ecosystems in New Jersey's forests and wetlands. See 2020 Report on Climate Change, pp. 85-113. Warmer temperatures mean that some pest species will grow faster, travel further, and live well into warmer winters, all the while putting pressure on tree species unprepared for the onslaught. See *Id.* at 90-91. In New Jersey, the pine beetle is a prime example of this phenomenon. See *Id.* at 91. Warmer temperatures have allowed this pest to increase its numbers and range, creating conditions ripe for "massive mortality events covering tens of thousands of acres of New Jersey's pine forests." *Id.* at 91. Likewise, warmer temperatures and the potential for prolonged periods of drought may affect the composition of the tree species in New Jersey's forests. These conditions favor species that are more tolerant of drought and sandy soils, while existing hardwood trees will become stressed. See *Id.* at 85-90. Moreover, "[i]ncreases in temperature, and the hot, dry periods that result, may intensify the danger of wildfires by drying out vegetation and soil" in New Jersey forests. *Id.* at 93.

Some of New Jersey's freshwater wetlands are under threat because of climate change impacts, such as changes in precipitation, sea-level rise, and increased temperatures. See 2020 Report on Climate Change, p. 95-98. Tidal wetlands in New Jersey face similar threats to their existing ecosystems due to the effects of climate change. See *Id.* at 98-108. Sea-level rise contributes to the erosion of existing tidal wetlands and an increase in marsh migration. Increased frequency, severity, and duration of precipitation events will also contribute to the erosion of some tidal wetlands. See *Id.* at 104-107. The erosion and diminishing of New Jersey's

freshwater and tidal wetlands will result in the loss of plant and animal habitats, loss of natural flood control resources and depletion of the State's natural buffers that help to protect coastal communities from storms. See *Id.* at pp. 95 and 99.

New Jersey's forests and wetlands serve as carbon sinks. See 2020 Report on Climate Change, p. 111. Specifically, these resources work as natural carbon capture systems, removing CO₂ from the atmosphere and helping New Jersey lower its net emissions. See *Id.* As explained above, the loss of forests and wetlands due to climate change will hinder New Jersey's ability to offset carbon emissions through these carbon sinks, and in the case of forests destroyed by pests, such as the pine beetle or wildfires, forests could become net carbon emitters. See *Id.* at 112.

In sum, climate change will have a negative impact on the State's plant and animal life, reducing habitats and diminishing the quality of recreational and cultural endeavors available within the State.

Rule Impacts: ACT Program and Fleet Reporting Requirements

Though the proposed new rules and amendments, standing alone, will not eradicate climate change, they are important first steps in a larger strategy intended to mitigate the effects and impacts of climate change. Efforts to mitigate the effects and impacts of climate change will require long-term commitments across all levels of government and sectors of the economy to increase the State's overall resilience while simultaneously facilitating climate pollutant reductions. This proposed rulemaking will accomplish two things: (1) incorporate by reference

the California ACT regulation, which requires each vehicle manufacturer to sell zero-emission trucks as an increasing percentage of their annual sales in the State; and (2) gather information from owners and operators of fleets of medium- and heavy-duty vehicles within the State to inform future rulemaking efforts. By transitioning from gasoline and diesel combustion engines to zero-emission engines, the proposed rulemaking will reduce emissions of CO₂, NO_x, and PM2.5, including one of PM2.5's highly warming components, black carbon.

As discussed above, CO₂ is one of the main contributors to climate change, while black carbon and other short-lived climate pollutants have also been linked to climate change due to their high global warming potential (GWP). 2050 Report, p. 109. Reducing emissions of CO₂ and short-lived climate pollutants from the transportation sector will mitigate the effects and impacts of climate change, which have been described at length above. Naturally, "[a]chieving these emissions reductions is predicated on decarbonizing electric generation [by deploying] renewable energy." New Jersey Department of Environmental Protection, New Jersey's Global Warming Response 80x50 Report, October 15, 2020, 10, Act p. https://www.nj.gov/dep/climatechange/docs/nj-gwra-80x50-report-2020.pdf. Thus, "the net emissions reductions projected from transportation" will be achieved simultaneous with the transition of the electric grid (regionally and within the State) away from fossil fuel. Id.

The Department anticipates that "[d]ecarbonizing medium- and heavy-duty vehicles provides additional benefits by locally reducing criteria pollutants and carcinogens such as black carbon, which are released in greater concentrations in heavily trafficked corridors that are typically in or near environmental justice communities." 2050 Report, p. 22. Reducing PM2.5

(and its components, like black carbon) is particularly beneficial given that diesel combustion contains "numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene."

https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.

The effects of NO_x and PM2.5 on public health have been widely and extensively studied by the EPA and others. For instance, elevated levels of NO_x cause damage to the mechanisms that protect the human respiratory tract and can increase a person's susceptibility to, and the severity of, respiratory infections and asthma. Long-term exposure to high levels of NO_x can cause chronic lung disease. Other health effects from exposure to NOx, include shortness of breath and chest pains. Further, long-term exposure to low concentrations of nitrogen dioxide (NO₂), a component of NO_x, also causes adverse health effects, including lung irritation and aggravate lung diseases, such as asthma. See USEPA, Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, Regulatory **Impact** Analysis (August 2016), 6-6 6-6, to at pp. https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P7NS.PDF?Dockey=P100P7NS.PDF.

Studies have also shown that reducing PM2.5 may lead to reduced incidence of premature mortality and morbidity Integrated Science Assessment (ISA) for Sulfur Oxides-Health Criteria (Final Report, Sep 2008), USEPA, Washington, DC, EPA/600/R-08/047F; USEPA. Integrated Science Assessment for Oxides of Nitrogen-Health Criteria (Final Report, July 2008), USEPA, National Center for Environmental Assessment Washington, DC, EPA/600/R-08/071; and

USEPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, Dec 2009), USEPA, Washington, DC, EPA/600/R-08/139F.

Finally, by collecting data on entities that own or operate fleets of medium- and heavy-duty vehicles within the State, the Department will be able to make informed decisions concerning future rulemaking efforts to reduce emissions from the medium- and heavy-duty vehicle sector. Informed rulemaking will have a positive social impact on the community being regulated, because it will allow the Department to develop rules that will be effective based upon the unique qualities of fleet operations within the State.

Economic Impact

The Department anticipates that the proposed rulemaking will have a net positive economic impact. Although the proposed rulemaking will result in increased compliance costs, the Department expects a net savings when decreased fuel consumption, lower maintenance costs, and avoided costs when estimating the social cost of carbon are considered.

Monetized value of CO₂ emission reductions

As discussed in the Social and Environmental Impact statements, climate change impacts are significant and far-reaching. Among the significant direct and indirect environmental changes the State will experience are "increases in temperature, variability in precipitation, frequency and intensity of storms, sea-level rise, ocean acidification, and the associated impacts to ecological systems, natural resources, human health, and the economy." 2020 Report on Climate Change, p. vi.

The economic costs of greenhouse gas emissions can be expressed using the social cost of carbon (SC-CO₂). "The SC-CO₂ is the monetized damages associated with an incremental increase in carbon emissions in a given year." Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, August 2016 (2016 IWG TSD Update), p.3, https://www.epa.gov/sites/production/files/2016-12/documents/sc co2 tsd august 2016.pdf. "The SC-CO2 is intended to provide a comprehensive measure of the net damages—that is, the monetized value of the net impacts from global climate change that result from an additional ton of CO2." National Academies of Sciences, Engineering, and Medicine 2017. Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide. Washington, DC: The National Academies Press (2017 NAS Report), p.5, https://doi.org/10.17226/24651. The damages include "changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services due to climate change." 2016 IWG TSD Update, p.3. As the SC-CO₂ provides a dollar valuation of the damages caused by one ton of carbon pollution, the SC-CO₂ can also be used to represent the monetary benefit of reducing carbon emissions by providing an estimate of the avoided cost of future damages.

In 2018, New Jersey's Legislature determined as part of its findings relative to nuclear energy that "[t]he social cost of carbon, as calculated by the U.S. Interagency Working Group on the Social Cost of Carbon in its August 2016 Technical Update, is an accepted measure of the cost of carbon emissions." N.J.S.A. 48:3-87.3(b)(8). Likewise, the 2019 Energy Master Plan (EMP) and

the Department's 2018 CO₂ Budget Trading Program rules notice of proposal used the U.S. Interagency Working Group on Social Cost of Greenhouse Gases (IWG) supported SC-CO₂ values to consider the avoided social costs of actions taken to reduce greenhouse gas emissions. Considering all of these factors, the Department has determined that the techniques used to estimate the 2016 IWG SC-CO₂ values are based on the most current science and, therefore, are appropriate when estimating the monetary benefits of avoided greenhouse gas emissions.

The Department further notes that the Intergovernmental Panel on Climate Change (IPCC) has stated that the 2016 IWG SC-CO₂ estimates are likely underestimated due to the omission of significant impacts that cannot be accurately monetized, including important physical, ecological, and economic impacts. See IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5 degrees Celsius above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press (2018 IPCC Special Report),

https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15 Full Report High Res. pdf.

As noted in the 2016 IWG TSD Update cited above, the models used by the IWG did "not include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature" at that time, and that in the IWG's judgement "these

limitations suggest that the SC-CO₂ estimates are likely conservative." *Id.* at 20-21. While the Department understands there is uncertainty regarding the precise potential future impacts of climate change, the Department agrees with the IPCC and the IWG's own guidance. Therefore, the monetary benefits set forth below are believed to be conservative, and the avoided greenhouse gas emissions achieved through this rulemaking will likely result in greater economic benefits.

The SC-CO₂ "for a given year is an estimate, in dollars, of the present discounted value of the future damage caused by a 1-metric ton increase in CO₂ emissions into the atmosphere in that year, or equivalently, the benefits of reducing CO₂ emissions by the same amount in that year." 2017 NAS Report, p.5. The SC-CO₂ is year specific and is highly sensitive to the discount rate used to discount the value of the damages in the future due to CO₂ emissions. The SC-CO₂ increases over time as social-ecological systems become more stressed from the aggregate impacts of climate change and future emissions cause incrementally larger damages. Table 1 below shows the increase of SC-CO₂ values over time for each discount rate used by the Department.

Table 1: Social Cost of CO₂, 2025-2050 (in 2018 dollars per metric ton of CO₂)

Year	5%	3%	2.5%
	Average	Average	Average
2025	17	56	83
2030	19	61	89
2035	22	67	95
2040	26	73	102
2045	28	78	108
2050	32	84	115

(Values derived from the 2016 IWG TSD Update)

According to the 2016 IWG TSD Update, "the range of discount rates reflects both uncertainty and, at least in part, different policy or value judgements." *Id.* at 19. When modeling the economic impact of climate change, a higher discount rate decreases the value today of future environmental damages. The Department's SC-CO₂ estimates are calculated using the 2.5, three, and five percent discount rates determined by IWG to "reflect reasonable judgments under both descriptive and prescriptive approaches." Interagency Working Group on Social Cost of Carbon, United States Government, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866*, February 2010 (2010 IWG TSD), p.23, https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf.

Following IWG recommendations, the Department's estimates of avoided SC-CO₂ benefits are presented as a range of values using the 2.5, three, and five percent discount rates. See 2016 IWG TSD Update. Additionally, the Department expresses all monetary values in 2018 dollars to estimate the economic impacts of the proposed rulemaking to be consistent with California.

Advanced Clean Trucks Program

As the proposed rulemaking is based on the portion of California's ACT regulation that requires manufacturers to increase the percentage of future sales of medium- and heavy-duty ZEVs, the Department relied on the methodology provided by CARB, the original architect of the rules, to estimate the emission reductions of the rules based on increased sales of medium- and heavy-duty ZEVs in New Jersey. These estimates were scaled to fit New Jersey's demographics and vehicle usage. As a result, the Department estimates cumulative total CO₂

reductions from 2024 through 2040 to be 2.6 MMT. And the corresponding total avoided SC-CO₂ benefits are estimated as \$60 million (five percent discount rate), \$179 million (three percent discount rate), and \$253 million (2.5 percent discount rate).

Fleet Reporting Requirement

Unlike the proposed changes requiring manufacturers to increase the percentage of future sales of medium- and heavy-duty ZEVs, the proposed fleet reporting requirements will not result in direct emission reductions. Rather, the fleet reporting requirements will inform future strategies intended to lower emissions of greenhouse gases and other climate pollutants.

Monetized value of improved human health

Advanced Clean Trucks Program

In addition to the estimated economic benefits of lower greenhouse gas emissions and avoided global warming as calculated by the SC-CO₂, the Department expects the proposed rules will provide additional benefits in the forms of avoided premature deaths and avoided costs associated with treating health conditions caused by exposure to pollution. Specifically, the Advanced Clean Trucks program will reduce black carbon, NO_x, and PM2.5 emissions, resulting in human health benefits, such as fewer instances of premature mortality, fewer hospital and emergency room visits, and fewer lost days of work. Relying on EPA studies, CARB quantified the health risk from exposure to particulate matter (see CARB, Standardized

Regulatory Impact Assessment, August 8, 2019 (CARB SRIA), p.19 and n.37, https://ww3.arb.ca.gov/regact/2019/act2019/appc.pdf.), and ascribed the following monetary values associated with each avoided premature death and health incident: premature deaths (\$9.4 million); hospitalizations for cardiovascular illness (\$56,588); hospitalizations for respiratory illness (\$49,359); and emergency room visits (\$810.00). See CARB SRIA. The Department used CARB's standard values to monetize the expected health outcomes. By multiplying each incident by the standard value used by CARB, the Department estimates that implementation of the ACT program will result in monetized benefits from avoided premature deaths and avoided health incidents from 2024 through 2040 equal to roughly \$882 million expressed in 2018 dollars.

This estimate likely underestimates the true avoided health costs from removing particulate matter from the air, as there are a number of additional health concerns linked to exposure that may not result in death, hospitalization, or an emergency room visit. For example, PM2.5, polycyclic aromatic hydrocarbons (PAHs), nitrogen dioxide, and black carbon have been associated with deficits in intelligence, memory, and behavior. PAHs, which are a component of black carbon and PM2.5, have been associated with developmental delay; reduced IQ; symptoms of anxiety; depression; and inattention; attention deficit hyperactivity disorder (ADHD); and reduced size of brain regions important for processing information and impulse control. See American Journal of Public Health, Healthy Air, Healthy Brains: Advancing Air Pollution Policy to Protect Children's Health, March 13, 2019, by D.C. Payne-Sturges et. al, https://aiph.aphapublications.org/doi/full/10.2105/AJPH.2018.304902. Black carbon and

PM2.5 have also been associated with asthma exacerbation. See Science of the Total Environment, *Acute effects of black carbon and PM2. 5 on children asthma admissions: a time-series study in a Chinese city,* by Hua, J., Yin, Y., Peng, L., Du, L., Geng, F., & Zhu, L. (2014), Vol. 481, pp. 433-38. It was estimated that nationwide in 2008, \$4 billion in direct medical costs and nearly \$5 billion in indirect costs, such as lost productivity resulting from parents' caring for sick children, could be attributed to asthma. Applying a range of attributable fractions (10 percent to 35 percent), the best estimate of childhood asthma costs in 2008 that could be associated with environmental factors was \$2.72 billion. Health Affairs, *Reducing the Staggering Costs of Environmental Disease in Children, Estimated at \$76.6 Billion in 2008*, 2011, by L. Trasande & Y. Liu in Health Affairs, https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2010.1239. *Fleet Reporting Requirement*

Unlike the proposed rules requiring manufacturers to increase the percentage of future sales of medium- and heavy-duty ZEVs, the proposed fleet reporting requirements will not result in direct emission reductions. Rather, the fleet reporting requirements will inform future strategies intended to lower emissions of greenhouse gases and other climate pollutants.

Summary of Costs

Advanced Clean Trucks Program

The purpose of the proposed ACT program and fleet reporting requirement is to increase the number of medium- and heavy-duty ZEVs sold in New Jersey relative to the

baseline. Currently, medium- and heavy-duty ZEVs have higher upfront capital costs for the vehicle and infrastructure investments, but lower operating costs over time resulting in lower overall costs for truck transportation in New Jersey. These costs can be roughly estimated by adjusting cost estimates developed by CARB in its Advanced Clean Trucks analysis. See CARB SRIA. CARB values were scaled to reflect VMT in New Jersey and to account for additional regulations and incentives that are exclusive to California for this category of vehicles. In addition, CARB acknowledged that manufacturers will use ZEVs to partially comply with a separate rule, the Phase 2 greenhouse gas standards

(https://ww3.arb.ca.gov/regact/2018/phase2/finalatta.pdf? ga=2.124782280.330462755.1607 374204-2117763012.1584544522), thus partially offsetting the actual cost of complying with the ACT regulation. After carrying forward these assumptions, the Department estimates the cost to comply in New Jersey is approximately \$1.6 billion from 2024 through 2040 compared to the baseline scenario. However, when decreased fuel consumption and lower maintenance costs are considered, the Department estimates a net savings of \$72 million.

The cost categories and components included in this analysis are:

- Manufacturer: zero emission vehicle, internal combustion vehicle that complies with CARB's Phase 2 greenhouse gas standards (cost avoided), ZEV Certification
- Fuel: gasoline, diesel, electricity, hydrogen fuel cost
- Infrastructure: charging station costs including infrastructure and maintenance
- Maintenance: vehicle maintenance costs, maintenance bay upgrades
- Midlife: Battery replacement costs

 Other: sales tax, Federal excise tax, registration fees, reporting, transitional costs, and workforce development.

Based on its cost analysis, CARB found "deploying ZEVs will decrease costs to the California economy primarily due to lower fuel costs." CARB SRIA, p. 48. The Department assumes similar savings in New Jersey, even in the absence of California's Low Carbon Fuel Standard program, which enables vehicle manufacturers to earn credit from producing low carbon vehicles. As in California, vehicle manufacturers selling into New Jersey are expected to see increased costs in producing ZEVs when compared to fossil-fuel alternatives. However, the proposed rules are expected to reduce the costs of complying with the Phase 2 greenhouse gas standards since ZEVs produced to comply with the ACT program can also be used to comply with the Phase 2 greenhouse gas standards, thus, partially offsetting increased manufacturing expenses. ZEV certification costs are not expected to significantly contribute to the overall costs of compliance. As CARB explained, "[i]t is not straightforward to predict how these costs and cost-savings would be passed on to consumers. Vehicle pricing is complex, and different manufacturers could use different strategies to pass on these costs. It is possible that manufacturers may pass on incremental ZEV costs through the ZEVs themselves, through the rest of their [internal combustion engine] fleet, or some combination thereof." CARB SRIA, p.32.

The majority of the cost savings included in the Department's estimate are from reduced fuel use. CARB estimates that "ZEVs are 2 to 5 times as efficient as similar vehicles with internal combustion engines technologies." CARB SRIA, p. 36. Assuming fuel and electricity prices increase along similar pathways in New Jersey to those predicted in California,

the Department expects the total cost savings associated with decreased fuel consumption to be approximately \$1.3 billion. Compare https://www.eia.gov/petroleum/ and https://www.eia.gov/electricity/) (historical EIA data indicates a positive correlation between fuel and electricity prices in California and New Jersey). These savings will increase over time as ZEV adoption increases and technology improves vehicle efficiency. The predicted fuel savings are expected to be greater than the increased purchase price of ZEVs, even if manufacturing costs were fully passed through to purchasers.

The necessary infrastructure to charge/fuel electric vehicles is assumed to be privately owned and maintained by vehicle owners/operators. Operators will be required to purchase charging/fueling stations and perform any necessary upgrades to the site. CARB assumes charging/fueling station costs vary between \$5,000 and \$50,000 per unit, depending on vehicle class. Charging/fueling stations also require regular maintenance; these costs are included in the infrastructure estimates.

The Department also anticipates additional expenses associated with maintenance that will be borne by vehicle operators and firms that support them. Servicing electric vehicles requires specialized equipment and training. Bays needed to service ZEVs may require upgrades. However, following CARB's analysis, the Department estimates that the lifetime cost of maintaining a ZEV will be lower than a comparable gas or diesel vehicle. This holds true even after the midlife cost of replacing a battery is incorporated into the estimate. The remaining costs, including lost revenue from gasoline and diesel fuel taxes, are not expected to have a major economic impact on the State of New Jersey. Costs to the Department are anticipated to

be minimal, although it is anticipated that one new full-time employee will be needed to implement the ACT program, assist with education, monitor compliance, and analyze reported data.

Fleet Reporting Requirements

CARB estimates the cost to comply with the reporting requirements of California's ACT regulation is less than 0.1 percent of the overall cost of complying with the ACT rules.

Additionally, CARB estimates a one-time expense of \$200,000 to establish the fleet reporting system for the rules. The Department anticipates similar costs for its reporting system development.

Environmental Impact

The Department anticipates that the proposed rulemaking will have a positive environmental impact. By establishing requirements for medium- and heavy-duty vehicle manufacturers to sell zero-emission trucks and buses as an increasing percentage of their annual sales in the State, the proposed rules will reduce emissions of CO₂ and the short-lived climate pollutant, black carbon, as well as the criteria pollutants, NO_x and PM2.5. It is important to reduce CO₂ and black carbon (a component of PM2.5) emissions from all mobile sources because the transportation sector is responsible for more than 40 percent of New Jersey's total net CO₂e emissions. Thus, the proposed rulemaking will serve as one of a number of significant initial steps toward mitigating the adverse environmental effects and impacts of climate change.

Emission Reduction Calculations: ACT Program

As explained above, New Jersey is proposing to incorporate by reference California's ACT regulation. Accordingly, the Department estimated the projected emission reductions of greenhouse gases, NO_x, and PM2.5 from implementation of the ACT regulation in New Jersey by scaling the benefits calculated by CARB in its rulemaking. Specifically, the Department relied upon the emission benefits described in CARB's analysis for ACT, and then scaled the results by multiplying the ratio of New Jersey's medium- and heavy-duty vehicle miles traveled (VMT) by California's medium- and heavy-duty VMT. When CARB estimated the environmental impacts of the ACT regulation, it reported the benefits based on reductions in CO₂e rather than CO₂ emissions alone. "CO₂e describe[es] different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO₂e signifies the amount of [CO₂] which would have the equivalent global warming impact, based on their relative global warming potential." 2050 Report, p. v, FN 1. Accordingly, the Department has done the same. Also, because CARB chose an analysis year of 2040, the Department has estimated the emissions benefits for that year and cumulatively from 2024 through 2040.

California estimated the emission benefits of implementing its ACT regulation in California through 2040. Those benefits were estimated to be 2.9 million metric tons (MMT) per year CO_2e , 27.9 tons per day NO_x (8,700 tons per year NO_x), and 0.85 tons per day PM2.5 (270 tons per year PM2.5). See CARB 15-day-notice document: Attachment C – Updated Costs and Benefits Analysis for the Proposed Advanced Clean Trucks Regulation, Table I-1 on pp. 3 and 5 (https://ww3.arb.ca.gov/regact/2019/act2019/30dayattc.pdf).

In order to estimate emission benefits of implementing the ACT program in New Jersey through 2040, the Department scaled California's benefits to New Jersey's VMT. The scaling factor of New Jersey medium- and heavy-duty VMT divided by California medium- and heavy-duty VMT is 0.150. See Tables PS-1, VM-2 and VM-3 in Federal Highway Administration (FHWA) Highway Statistics for 2018 (https://www.fhwa.dot.gov/policyinformation/ statistics/2018/ps1.cfm). Consistent with the scope of the California ACT regulation, the VMT estimates are for medium- and heavy-duty vehicles that do not include buses.

By applying the VMT scaling factor to the California benefits, the Department estimates the benefits of the ACT rule once implemented in New Jersey will be 4.2 tons per day NO_x (1,300 tons per year NO_x) in 2040, 0.13 tons per day PM2.5 (40 tons per year PM2.5) in 2040, and 0.44MMT/year CO₂e in 2040. In addition, the cumulative total CO₂e benefits from 2024 through 2040 for New Jersey are estimated to be 2.6 MMT CO₂e. Unlike criteria pollutants, such as NO_x and PM2.5, greenhouse gas emissions, such as CO₂, accumulate and remain in the atmosphere for decades, and in some cases on the order of hundreds of years. Thus, the cumulative reductions provide a more complete picture of the long-term benefits. As discussed previously, a component of PM2.5 known as black carbon also contributes to global warming. While there is not yet scientific consensus about the exact GWP of black carbon, CARB relies on a GWP of 910 times that of CO₂ over 100 years. See 2050 Report, p. 133. Assuming that the black carbon fraction of PM2.5 from these vehicles in 2040 is 0.25 and that the GWP for black carbon is 910 times that of CO₂, the global warming benefits of black carbon for the ACT rule are an expected reduction of 0.008 MMT/year CO₂e in 2040 for New Jersey.

Emission Reduction Calculations: Fleet Reporting Requirements

The proposed fleet reporting requirements will not result in direct emission reductions.

Rather, the fleet reporting requirements will inform future strategies intended to lower emissions of greenhouse gases and other climate pollutants.

Impacts on Climate: ACT Program and Fleet Reporting Requirements

As discussed above, CO₂ is one of the main contributors to climate change. Reducing emissions of CO₂ and other short-lived climate pollutants will mitigate the environmental effects and impacts of climate change. The effects and impacts of climate change on the environment were carefully researched and published in the Department's 2020 Report on Climate Change. See New Jersey Department of Environmental Protection, 2020 New Jersey Scientific Report on Climate Change, June 30, 2020,

https://www.nj.gov/dep/climatechange/docs/nj-scientific-report-2020.pdf. While the science behind climate change is largely tied to the environment, the effects of climate change on the environment have a multitude of social costs, economic expenditures, and environmental damages. Thus, the substantive findings of the 2020 Report on Climate Change are discussed extensively in the Social Impact above. To avoid repetition, the Department has highlighted only a few of the environmental impacts of climate change here:

 Increased air pollution, particularly in densely populated urban areas. See 2020 Report on Climate Change, p. x.

- Stress on the quantity of New Jersey's water supply, in addition to water quality impairments. See *id*. at p. x.
- Blueberries and cranberries may be unable to adapt to changes in the environment,
 reducing their productivity and making them unsuitable crops for New Jersey. See id. p.
 xi-xii.
- Loss of animal and plant habitat, including, but not limited to, rare native plant species, vulnerable bird species (for example, the American Goldfinch, New Jersey's State bird), and commercially valuable marine life (for example, summer flounder). See *id*. at p. xii-xv.

In short, the proposed ACT program will reduce emissions of CO₂ and other short-lived climate pollutants, as part of a comprehensive strategy to mitigate the effects and impacts of climate change. Additionally, the fleet reporting requirements will inform future strategies intended to accelerate the use of ZEVs, thereby mitigating the impacts of climate change. Accordingly, both of the proposed rules are anticipated to have a positive environmental impact.

Rule Impacts on Other Pollutants: ACT Program and Fleet Reporting Requirements

The Department expects this proposed rulemaking to not only mitigate the impacts of climate change, but to also reduce the negative effects of other air pollutants, such as NO_x , PM2.5, and a component of PM2.5, black carbon. The NO_x emission reductions will contribute to reductions in ground-level ozone concentrations in New Jersey and elsewhere within the State's nonattainment areas. Further, as diesel trucks are replaced with electric, the toxic

particles associated with diesel PM2.5 will be reduced. The health benefits that result from reducing emission of PM2.5, which will result in improved local health outcomes in communities that are disproportionately affected by environmental degradation, are quantified in the Economic Impact below. Likewise, the health benefits of reducing NO_x and PM2.5 emissions are discussed more generally in the Social Impact statement, below.

It is important to note that black carbon is a component of PM2.5, which impacts local air quality and health, particularly in the State's urban areas, including increased risk of cancer risk and respiratory ailments. Though New Jersey's 2018 Greenhouse Gas Inventory did not include estimates for black carbon since it is not a gas, estimates from the 2050 Report showed that nearly 60 percent of black carbon emissions come from on-road diesel-fueled heavy-duty vehicles and on-road light-duty gasoline-fueled vehicles. See 2050 Report, pp. 109 and 135.

Thus, replacing medium- and heavy-duty vehicles that run on gasoline and diesel with ZEVs, as part of the ACT program, will have a positive impact on the environment by reducing Statewide air pollutants like NO_x and PM2.5, as well as local pollutants like black carbon. Though the fleet reporting requirements will not result in direct emission reductions, the rules will inform future strategies intended to mitigate the impacts of climate change by accelerating the use of zero-emission vehicles.

Federal Standards Statement

N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65), requires State agencies that adopt, readopt, or amend State rules that exceed any Federal standards or requirements to include in the rulemaking document a Federal standards analysis.

ACT Program

In January 2020, the New Jersey Legislature passed legislation requiring the establishment of goals for the increased use of plug-in vehicles, including "goals for vehicle electrification and infrastructure development that address medium-duty and heavy-duty onroad diesel vehicles and associated charging infrastructure, similar to the State goals for light duty vehicles." N.J.S.A. 48:25-3(10). The New Jersey Legislature found that plug-in electric vehicle technology has improved significantly for vehicles of all types; that plug-in electric vehicles with longer ranges are now widely available at a lower cost and present a viable alternative to vehicles fueled by fossil fuels; that more plug-in electric vehicle makes and models will be introduced in the State motor vehicle market over the next several years; that vehicle electrification offers a wide range of benefits, such as improved air quality, reduced greenhouse gas emissions, and savings in motor vehicle operating costs for vehicle owners; that increased use of plug-in electric vehicles can contribute significantly to the attainment of existing State air pollution and energy goals, including the objectives of the Global Warming Response Act, P.L. 2007, c. 112 (N.J.S.A. 26:2C-37 et seq.) and the State's Energy Master Plan. See N.J.S.A. 48:25-1. In July 2020, New Jersey reaffirmed its commitment to grow the market for zero-emission medium- and heavy-duty vehicles by signing a multi-state memorandum of understanding (MOU), which is a commitment by the signatories to coordinate their actions to

achieve significant vehicle sales goals. See 2050 Report, p. 14;

https://ww2.arb.ca.gov/sites/default/files/2020-07/Multistate-Truck-ZEV-Governors-MOU-20200714.pdf.

The Federal Clean Air Act (CAA) (42 U.S.C. §§ 7401 et seq.) granted the State of California, which has some of the worst air pollution in the nation, 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 states give two years' lead time. See 42 U.S.C. § 7507. Thus, once the EPA grants California's request for a waiver for the ACT regulation, pursuant to 42 U.S.C. § 7543, the Advanced Clean Trucks program that the Department proposes to incorporate 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 ACT program rules would not exceed a Federal standard once a waiver is granted. Moreover, the findings of the New Jersey Legislature, and New Jersey's commitment through the MOU, favor adoption of the California standard. Thus, no further analysis is necessary.

Fleet Reporting Requirements

As discussed above, New Jersey is committed to increasing the use of zero-emission vehicles in all weight classes in order to lower emissions of greenhouse gases and other climate pollutants contributing to climate change. The information gathered pursuant to the proposed fleet reporting requirements will assist the Department by informing future strategies that may

be implemented to increase use of zero-emission vehicles over 8,500 pounds gross vehicle weight rating. Because there are no comparable rules or Federal standards, no Federal standards analysis is required for the fleet reporting requirements.

Jobs Impact

The Department anticipates that the proposed rulemaking will have a small, net positive impact on job retention or creation in the State. As part of its economic analysis, CARB estimated the impact of the ACT Regulation on the total employment in California across all industries. CARB estimated a slightly positive job impact from 2025 to 2040. According to CARB, "[a]s the requirements of the Proposed ACT Regulation go into effect the industries generally realizing reductions in production cost or increases in final demand see an increase in employment growth. This includes the truck transportation, construction, and manufacturing sectors and upstream industries." CARB SRIA, p.61. CARB also anticipated that "[t]he largest decrease in employment results from the public sector, which is estimated to realize a decrease in fuel and sales tax revenue and registration fees. The oil and gas extraction industry and automotive repair and maintenance industry see a decreased employment growth rate due to a reduction in final demand for their goods and services." Id. On net, CARB estimated an increase of employment of roughly 8,000 jobs, less than 0.04 percent of baseline California employment. Adjusting for the size of New Jersey's employment as of October 2020, this would represent roughly 1,300 jobs in 2040, resulting in a positive impact on job creation and retention in the State.

The Department believes that the proposed rulemaking will result in economic growth of the State's clean energy sector. Achieving the 80x50 goal will require an economy-wide transition to clean energy. The Department anticipates that the proposed rule will create jobs and spur advances in clean energy and zero-emission electric vehicle technology and infrastructure. The 80x50 Report noted that "deeper investment" in electrifying transportation and building electric vehicle infrastructure will "create hundreds of new jobs, resulting in New Jersey's clean energy economy, and the reduction of co-pollutants that can disproportionately impact public health in low-income and minority environmental justice communities." See 80x50 Report, p. x. The 2019 EMP similarly noted the "economy-wide financial benefits, all of which point to building a thriving innovation-based economy in the state" by electrifying the transportation sector. 2019 EMP, p.62.

The 2020 Clean Energy Employment Report, released December 10, 2020 by the United States Climate Alliance, http://www.usclimatealliance.org/jobsreport, states, "Other major areas of growth prior to the COVID-19 pandemic included the grid modernization and storage sector and alternative transportation. Employment in these sectors grew by a respective 32 percent and 18 percent between 2016 and 2019, together equating to roughly 41,800 new jobs across the U.S. Climate Alliance states." The Alliance report further states, "Hybrid electric vehicle companies grew their workforce by about 15 percent (or 7,273 jobs) between 2016 and 2019. Electrical vehicle companies were the second largest employer; these companies grew by 22 percent, or 8,721 additional workers from 2016 through 2019. Plug-in hybrid vehicles were also a large component of the alternative transportation sector. Companies working with this

sub-technology accounted for just over 25,000 workers—a growth rate of just over 29 percent between 2016 and 2019, or roughly 5,700 new workers in three years."

Agricultural Industry Impact

The Department anticipates that the proposed rulemaking will have a positive impact on the agricultural industry in New Jersey by reducing emissions of CO₂ and other climate pollutants/forcers, and therefore, reducing atmospheric concentrations of the gases and other forcers that are driving climate change. In 2020, the Department published a report entitled, "2020 New Jersey Scientific Report on Climate Change." Within the report is a section that outlines the existing and anticipated impacts of climate change on the agricultural industry in New Jersey. See 2020 Report on Climate Change, pp. 81-83. The term "agriculture" is defined broadly in the report to include crops, livestock, and nursery plants. See 2020 Report on Climate Change, p. 81. Though many factors can affect agriculture, the report focuses on alterations in temperature CO₂ concentrations, and availability of water, which can be attributed to climate change. See 2020 Report, p. 81. These alterations include:

- Increased temperatures, which can:
 - o negatively impact the flavor and visual appeal of crops.
 - result in conditions that are no longer suitable for specialty crops, such as cranberries and blueberries.
 - o result in a larger number of insects, whose lifespans are elongated.
 - lead to an increased use of pesticides, which may cause other adverse environmental impacts.

- negatively impact livestock production (such as milk production).
- Increases in the concentration of CO₂, which can:
 - o lead to increases in weeds competing for crop resources.
 - lead to an increased in the amount and frequency of herbicide use, which may cause other adverse environmental impacts.
- Changes in water availability, which can:
 - Lead to longer dry periods, increasing the need for irrigation and increasing the cost of production.

See 2020 Report on Climate Change, pp. 81-83. In other words, climate change is expected to have major impacts on the growth and productivity of New Jersey crops and livestock due to an increase in dry spells, heat waves, and sustained droughts. "Crop yields are expected to decrease [and become] stressed due to agricultural pests and weeds as winter temperatures continue to rise. All of this will increase pressure on farms, which will likely result in an increased use of herbicide and pesticide use." 2020 Report on Climate Change, p. 83. For this reason, the proposed rulemaking should have a positive impact on agriculture in this State by reducing the extent of significant losses attributable to climate change.

Regulatory Flexibility Analysis

As required by the New Jersey Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq., the Department has evaluated the reporting, recordkeeping, and other compliance requirements that the proposed rules would impose upon small businesses. The Regulatory Flexibility Act

defines the term "small business" as "any business which is a resident in this State, independently owned and operated and not dominant in its field, and which employs fewer than 100 full-time employees." Based upon this definition, the proposed rulemaking may impose compliance, recordkeeping, and reporting requirements on small businesses. These requirements and their associated costs are discussed in the Summary and Economic Impact above. In light of the impacts from emissions from medium- and heavy-duty vehicles that are not ZEVs or NZEVS, as discussed in the Social and Environmental Impact statements, the Department does not propose an exemption or accommodation for small businesses.

ACT Program

The Department is not aware of any vehicle manufacturer that is resident in New Jersey that employs fewer than 100 full-time employees. However, small businesses involved in selling medium- and heavy-duty vehicles could be affected by the rules to the extent that manufacturers will expect dealers to place the medium- and heavy-duty ZEV and NZEV vehicles in their vehicle sales inventory. Dealerships may experience some cost increases associated with sales of ZEVs and NZEVs, since in some cases these vehicles represent a technology that a dealership has not previously handled. Accordingly, the proposed rules may require new training for sales personnel. The Department does not anticipate any additional paperwork requirements for dealers associated with the proposed rules.

Fleet Reporting Requirements

Under the proposed fleet reporting requirements, owners of fleets, as defined in the

rule, will be required to submit a report to the Department, which will include information related to vehicle identification, vehicle operations, and facility locations within New Jersey.

The Department anticipates that a minority of businesses subject to the fleet reporting requirements will employ fewer than 100 full-time employees. The amount of time necessary to complete these reporting requirements will depend on the number of vehicles and locations, as well as the current recordkeeping practices. The Department expects that such small businesses already have personnel who keep records on vehicle identification and operations, as well as facility locations. While the Department acknowledges that those businesses will need to allocate time for personnel to compile and submit the information required, those businesses with electronic recordkeeping practices will likely have to spend less time completing the report. The Department estimates that businesses with a single facility category and few or no vehicles, or fleets maintaining electronic records of their vehicle operations, are likely to complete their reporting requirements in a few hours. Businesses with a moderate to large number of facilities and/or vehicles may need a longer period to complete their reporting. But the Department anticipates that the fleet reports will be submitted through a web portal using an electronic form that guides the user through the questions, thereby minimizing the burden on small businesses. Moreover, the proposed fleet reporting requirements are a onetime obligation. Overall, the Department finds this to be minimal effort at minimal cost for the regulated entity. Moreover, the information submitted by the regulated entities will be used to inform future rulemaking and policy. Thus, it is in the best interest of a regulated entity to ensure that the Department has accurate information pertaining to their business.

Housing Affordability Impact Analysis

In accordance with N.J.S.A. 52:14B-4, the Department has evaluated the proposed rules to determine their impact, if any, on the affordability of housing. The proposed rules establish: (1) a program requiring manufacturers of vehicles over 8,500 pounds GVWR to sell an increasing percentage of zero-emission vehicles; and (2) reporting requirements for owners and operators of fleets that include medium- and heavy-duty vehicles. Given the limited applicability of the proposed rules, the Department has determined that the proposed rules are unlikely to impact housing affordability or the average costs of housing in the State.

Smart Growth Development Impact Analysis

In accordance with N.J.S.A. 52:14B-4, the Department has evaluated the proposed rules to determine their impact, if any, on housing production in Planning Areas 1 or 2, or within designated centers, under the State Development and Redevelopment Plan. The proposed rules establish: (1) a program requiring manufacturers of vehicles over 8,500 pounds GVWR to sell an increasing percentage of zero-emission vehicles; and (2) reporting requirements for owners and operators of fleets that include medium- and heavy-duty vehicles. The proposed rules do not impact land use development of any kind, including that of residential housing. Therefore, the rules are unlikely to evoke a change in housing production in Planning Areas 1 or 2, or within designated centers, under the State Development and Redevelopment Plan.

Racial and Ethnic Community Criminal Justice and Public Safety Impact

In accordance with N.J.S.A. 52:14B-4(a)(2) and N.J.S.A. 2C:48B-2, the Department has evaluated this rulemaking and determined that it will not have an impact on pretrial detention, sentencing, probation, or parole policies concerning adults and juveniles in the State. Accordingly, no further analysis is required.

Full text of the proposal follows (additions indicated in boldface **thus**; deletions indicated in brackets [thus]):

CHAPTER 27

AIR POLLUTION CONTROL

SUBCHAPTER 31. [(RESERVED)] ADVANCED CLEAN TRUCKS PROGRAM

7:27-31.1 **Definitions**

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

"California Air Resources Board" or "CARB" means the agency, or its successor agency, established and empowered to regulate sources of air pollution in the State of California, including motor vehicles, pursuant to section 39003, California Health & Safety Code, 1999, as amended or supplemented.

"CCR" means the California Code of Regulations.

"Department" means the New Jersey Department of Environmental Protection.

"GVWR" shall have the same meaning as the term "gross vehicle weight rating" as defined at 13 CCR § 1963(c).

"NZEV" shall have the same meaning as the term "near-zero-emission vehicle" as defined at 13 CCR § 1963(c).

"Person" means any individual or entity and shall include, without limitation, corporations, companies, associations, societies, firms, partnerships, and joint stock companies, and shall also include, without limitation, all political subdivisions of any states, and any agencies or instrumentalities thereof.

"Ultimate purchaser" means, with respect to any vehicle, the first person who in good faith purchases a new motor vehicle for purposes other than resale and registers it with the New Jersey Motor Vehicle Commission.

"ZEV" shall have the same meaning as the term "zero-emission vehicle" as defined at 13 CCR § 1963(c).

7:27-31.2 Purpose

This subchapter establishes, in New Jersey, a program to reduce emissions from onroad vehicles over 8,500 pounds GVWR by incorporating the requirements of the California Advanced Clean Truck regulation, and is intended to accelerate sales of zero-emission vehicles over 8,500 pounds GVWR.

7:27-31.3 Applicability

- (a) Upon publication, in the Federal Register, of the final notice of California's receipt of a waiver from the United States Environmental Protection Agency, pursuant to 42 U.S.C. § 7543, for the Advanced Clean Truck Regulation, set forth at 13 CCR §§ 1963 through 1963.5, this subchapter shall apply to:
- 1. Any manufacturer that produces on-road vehicles over 8,500 pounds GVWR manufactured in model year 2025 and subsequent model years for sale in New Jersey on or after January 1, 2025.
- 2. Beginning with the model year 2024, any manufacturer that produces on-road vehicles over 8,500 pounds GVWR may generate, bank, and trade ZEV and NZEV credits pursuant to 13 CCR § 1963.2, as incorporated herein by reference.

7:27-31.4 Incorporation by reference

- (a) Unless specifically excluded by this subchapter, when a provision of the CCR 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 incorporated by reference, brought about by either judicial 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 related to sales requirements for manufacturers of on-road ZEVs and NZEVs over 8,500 pounds GVWR manufactured after model year 2025 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 and the rules set forth in this subchapter, the provisions incorporated by reference from the CCR shall prevail.
- (d) Nothing in the provisions incorporated by reference from the CCR shall affect the Department's authority to enforce statutes, rules, and permits, or any orders administered or issued by the Commissioner.
- (e) On or after (the operative date of this new subchaper or the operative date of California's regulations, whichever is later), new California rules, amendments, supplements, and other changes, brought about through administrative or judicial action, 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 are incorporated by reference within this subchapter, except as provided at (g), (h), (i), and (j) below:

Table 1

Provisions Incorporated by Reference

California Code of Regulations (CCR)

Title 13

Chapter 1

Motor Vehicle Pollution Control Devices

Article 2

Approval of Motor Vehicle Pollution Control Devices (New Vehicles)

Section 1963 Advanced Clean Trucks Purpose, Applicability, Definitions, and General Requirements

Section 1963.1 Advanced Clean Trucks Deficits

Section 1963.2 Advanced Clean Trucks Credit Generation, Banking, and Trading

Section 1963.3 Advanced Clean Trucks Compliance Determination

Section 1963.4 Advanced Clean Trucks Reporting and Recordkeeping

Section 1963.5 Advanced Clean Trucks Enforcement

- (g) In all provisions of CCR Title 13 incorporated by reference, replace "California" with "New Jersey," except at 13 CCR 1963(c)(11), (12), and (13), wherein the terms "excluded bus," "executive officer," and "gross vehicle weight rating" or "GVWR" are defined.
- (h) In all provisions of CCR Title 13 incorporated by reference, replace "Executive officer" and "CARB" with "Department," except at Section 1963(c) Definitions.

- (i) At 13 CCR Title 1963.5(4) incorporated by reference, replace "Health and Safety Code section 43212" with "N.J.A.C. 7:27A-3."
- (j) In all provisions of CCR Title 13 incorporated by reference, replace the year "2021" with the year "2024," except at 13 CCR § 1963.2(g).

SUBCHAPTER 33. [(Reserved)] FLEET REPORTING REQUIREMENTS

7:27-33.1 Definitions

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

"Backup vehicle" means a self-propelled motor vehicle designed for on-highway use that is used intermittently to maintain service during periods of routine or unplanned maintenance, unexpected vehicle breakdowns, or accidents, but is not used in everyday or seasonal operations.

"Broker" means a person who has broker authority from the Federal Motor Carrier Safety Association and, for compensation, arranges, or offers to arrange, the transportation of property by an authorized motor carrier.

"Business" means an occupation, profession, or trade; a person, partnership, or corporation engaged in commerce, manufacturing, or a service; or a profit-seeking enterprise or concern.

"Common ownership or control" means being owned or managed day-to-day by the same person or entity. Vehicles managed by the same directors, officers, or managers, or by

corporations controlled by the same majority stockholders are considered to be under common ownership or control even if their title is held by different business entities.

Common ownership or control of a Federal government vehicle shall be the primary responsibility of the unit that is directly responsible for its day-to-day operational control.

"Corporate parent" means a business that possesses the majority of shares in another business, which gives them control of their operational procedures.

"Dealer" means any person actively engaged in the business of offering to sell, soliciting, or advertising the sale, buying, transferring, leasing, selling, or exchanging of new motor vehicles and who has an established place of business.

"Department" means the New Jersey Department of Environmental Protection.

"Dispatched" means provided direction or instruction for routing a vehicle(s), whether owned or under contract, to specified destinations for a specific purpose(s), including, but not limited to, delivering cargo, passengers, property, or goods, providing a service, or assisting in an emergency.

"Emergency vehicle" means any publicly owned vehicle operated by a peace officer in the performance of their duties, any authorized emergency vehicle used for fighting fires or responding to emergency fire calls, and any publicly owned authorized emergency vehicle used by an emergency medical technician or paramedic or any ambulance used by a private entity under contract with a public agency.

"Established place of business" means a place actually occupied, either continuously or at regular periods, for business use.

"Facility" means any property with one or more unique physical addresses.

"Facility category" means a classification of different facility types based on a facility's primary purpose. Facility categories are defined as the following:

- 1. "Administrative/office building" means a building or structure used primarily for day-to-day activities that are related to administrative tasks, such as financial planning, recordkeeping, billing, personnel, physical distribution, and logistics, within a business.
- 2. "Distribution center/warehouse" means a location used primarily for the storage of goods that are intended for subsequent shipment.
- 3. "Hotel/motel/resort" means a commercial establishment offering lodging to travelers and, sometimes, to permanent residents.
- 4. "Manufacturer/factory/plant" means a location with equipment for assembling parts, producing finished products, intermediate parts, or energy products.
- 5. "Medical/hospital/care" means an institution engaged in providing, by, or under the supervision of, physicians, inpatient diagnostic, and therapeutic services or rehabilitation services by, or under the supervision of, physicians.
- 6. "Multi-building campus/base" means a property typically operated by a single entity with several buildings, often serving multiple purposes.
- 7. "Restaurant" means a business establishment where the primary purpose is serving meals or refreshments that may be purchased.

- 8. "Service center" means a facility that supports a business operation that generates revenue by providing a specific service or product, or a group of services or products, to a customer.
- 9. "Store" means an establishment that sells goods or a variety of goods and services to the general public.
- 10. "Truck/equipment yard" means an establishment that primarily stores or dispatches trucks and equipment, such as a garage or parking lot.
- 11. "Any other facility type" means any facility that is not included in this section.

"Fleet" means one or more self-propelled on-road vehicles under common ownership or control of a person, business, or agency. This includes vehicles that are rented or leased from a business that regularly engages in the trade or business of leasing or renting motor vehicles without drivers where the vehicle rental or leasing agreement for the use of a vehicle is for a period of one or more years.

"Fleet owner" means, except as modified at paragraphs 1 and 2 below, either the person registered as the owner or lessee of a vehicle by the New Jersey Motor Vehicle Commission, or its equivalent in another state, province, or country, as evidenced on the vehicle registration document carried in the vehicle.

1. For vehicles that are owned by the Federal government and not registered in any state or local jurisdiction, the owner shall be the department, agency, branch, or other entity of the United States, including the United States Postal Service, to which the

vehicles in the fleet are assigned or which have responsibility for maintenance of the vehicles.

2. For a vehicle that is rented or leased from a business that is regularly engaged in the trade or business of leasing or renting motor vehicles without drivers, the owner shall be the rental or leasing entity if the rental or lease agreement for the use of a vehicle is for a period of less than one year, otherwise the owner shall be the renter or lessee.

"Government agency" means any Federal, state, or local governmental agency, or any other public entity with taxing authority.

"Gross annual revenue" means the total revenue, receipts, and sales reported to the Internal Revenue Service for a consecutive 12-month period.

"Gross vehicle weight rating" or "GVWR" means the value specified by the manufacturer as the maximum design loaded weight of a single vehicle.

"Lease" means any commercial transaction recognized under the laws of this State as a means of creating a right to use a good, and includes renting. It also includes offering to rent or lease.

"Local government" is one or a cooperating combination of the entities defined as a contracting unit under the Local Public Contracts Law, N.J.S.A. 40A:11-2(1); a board of education under the Public School Contracts Law, N.J.S.A. 18A:18A-2.a; or a county college under the County College Contracts Law, N.J.S.A. 18A:64A-25.2.b.

"Motor carrier" means a person that transports passengers or property for compensation. A motor carrier, or person who is an employee or bona fide agent of a carrier, is not a broker when it arranges or offers to arrange the transportation of shipments that it is authorized to transport and that it has accepted and legally bound itself to transport.

"Motor vehicle" or "vehicle" means every device in, upon, or by which, a person or property is, or may be, transported other than by muscular power, excepting such devices that run only upon rails or tracks and motorized bicycles.

"On-road" means operated on the roadways of the State, excluding equipment that is not commonly operated on a roadway, except when that equipment is used for roadway construction and repair.

"Person" means any individual or entity and shall include, without limitation, corporations, companies, associations, societies, firms, partnerships, and joint stock companies, and shall also include, without limitation, all political subdivisions of any states, and any agencies or instrumentalities thereof.

"Subhauler" means a for-hire motor carrier who enters into an agreement to provide transportation services on the behalf of another motor carrier or broker.

"Subsidiary" means a company controlled by another company.

"Vehicle body type" means commonly used vehicle body descriptions to be used in responding to questions about the fleet of vehicles including the following: beverage truck, boom/bucket, box reefer, box dry van, bus-school, bus-shuttle, bus-other, car/SUV, car carrier, concrete mixer, concrete pump, crane, drill rig, dump, flatbed or stake bed, garbage

front loader, garbage side loader, garbage packer, garbage roll-off, other, pickup bed, service body, sweeper, tank, tractor day cab, tractor sleeper cab, tow, vacuum, water, van-cargo, van-step, van-passenger, or on-road yard tractor.

"Vehicle home base" means the location where a vehicle is domiciled, such as a business location where a vehicle is typically kept when not in use. For vehicles that are kept at a personal residence or kept at a location that is not operated by the entity when not in use, the vehicle home base shall be the location where the vehicle is dispatched from or where the vehicle is repaired or maintained.

"Vehicles awaiting sale" means vehicles in the possession of dealers, financing companies, or other entities that do not intend to operate the vehicle in New Jersey or offer the vehicle for hire for operation in New Jersey, and that are operated only to demonstrate functionality to potential buyers or to move short distances while awaiting sale for purposes such as maintenance or storage.

"Weight class bin" means a list of vehicles categorized by GVWR. The weight class bins are one of the following:

- 1. "Class 2b-3" means a motor vehicle designed for on-road use with a GVWR from 8,501 pounds to 14,000 pounds. The types of vehicles in this category generally include full-size pickup trucks, smaller utility trucks, cargo vans, and passenger vans.
- 2. "Class 4-6" means a motor vehicle designed for on-road use with a GVWR from 14,001 pounds to 26,000 pounds.

3. "Class 7-8" means a motor vehicle designed for on-road use with a GVWR greater than 26,000 pounds.

7:27-33.2 Purpose

The purpose of this subchapter is to collect information to understand the use cases of zero-emission vehicles with a GVWR of more than 8,500 pounds in New Jersey and to inform potential future strategies to accelerate the sales of zero-emission vehicles in these weight classes in the State.

7:27-33.3 Applicability

- (a) The provisions of this subchapter apply to each of the following entities:
 - 1. Any entity with gross annual revenues greater than \$50 million in the United States for the 2021 tax year, including revenues from all subsidiaries, subdivisions, or branches, that operated a facility in New Jersey in 2021 and had one or more vehicles over 8,500 pounds GVWR under common ownership or control that were operated in New Jersey in 2021.
 - 2. Any fleet owner that, in the 2021 calendar year, had 50 or more vehicles with a GVWR greater than 8,500 pounds under common ownership or control and operated a facility in New Jersey;

- 3. Any broker or other entity that, in the 2021 calendar year, dispatched 50 or more vehicles with a GVWR greater than 8,500 pounds into or throughout New Jersey and operated a facility in New Jersey;
- 4. Any New Jersey government agency, including State and local government, that had one or more vehicles over 8,500 pounds GVWR that were operated in New Jersey in 2021; and
- 5. Any Federal government agency that had one or more vehicles over 8,500 pounds GVWR that were operated in New Jersey in 2021.
- (b) The following entities, facilities, and vehicles are exempt from the reporting requirements of this subchapter:
 - 1. Military tactical vehicles and military tactical facilities owned or operated by the United States Department of Defense and/or the United States military services;
 - 2. Vehicles awaiting sale; and
 - 3. Emergency vehicles.

7:27-33.4 General requirements

- (a) An entity subject to this subchapter shall submit the information specified at N.J.A.C. 7:27-33.6 and 33.7 to the Department by April 1, 2022, through the web portal to be established on the www.stopthesoot.org website.
- (b) All submissions to the web portal shall include a certification(s) as provided at N.J.A.C. 7:27-1.39.

- (c) All information submitted to the Department pursuant to this subchapter shall be public information, unless the person submitting the information asserts a confidentiality claim and the Department determines that the information is entitled to confidential treatment in accordance with N.J.A.C. 7:27-1.8 through 1.30.
- (d) Subsidiaries, parent companies, or joint ventures may independently report information for each vehicle over 8,500 pounds. Alternatively, the corporate parent or joint venture business may report on behalf of its subsidiaries, as long as the information for all vehicles over 8,500 pounds is reported for each subsidiary, corporate parent, and joint venture.
- (e) An entity subject to this subchapter and has brokerage and/or motor carrier authority shall submit a report, even if no vehicles are owned by the entity.
- (f) Information pertaining to vehicles that are under common ownership or control may be submitted separately by each fleet owner.
- (g) Vehicle data must be reported as the fleet was comprised on a date of the fleet owner's choosing, so long as that date falls between January 1, 2021, and December 31, 2021.

7:27-33.5 Recordkeeping requirements

(a) An entity subject to this subchapter shall maintain the records used to compile responses to N.J.A.C. 7:27-33.6 and the data and analysis period used for N.J.A.C. 7:27-33.7 for a period of five years after the reporting deadline. Records shall include the following:

- 1. For owned on-road vehicles, mileage records and dates from records, such as maintenance logs, vehicle logs, or odometer readings, or other records with the information that the reporting entity used to determine its response;
- 2. For on-road vehicles not owned, but dispatched by the entity, dispatch records and dates, contracts, or other records with the information that the reporting entity used to determine their responses;
- 3. Vehicle registration for each owned vehicle operated in New Jersey; and
- 4. Contracts with entities, or contracts with subhaulers, or other records with the information that an entity used to determine their responses.
- (b) An entity subject to this subchapter, shall respond to requests for clarification of reported information within 14 days of receiving the request from the Department.

7:27-33.6 General entity information reporting

- (a) An entity subject to this subchapter shall report the following general information, as applicable:
 - 1. Entity name and fictitious business name;
 - 2. Mailing address including street name or PO box, city, state, and zip code;
 - 3. Name of the designated responsible official;
 - 4. Designated responsible official's email address;
 - 5. Designated responsible official's phone number;
 - 6. Name of corporate parent or governing body;

- 7. Federal Taxpayer Identification Number of corporate parent or other entities with which the reporting entity has vehicles under common ownership or control;
- 8. For a government entity, the jurisdiction;
- 9. Federal Taxpayer Identification Number;
- 10. Primary six-digit North American Industry Classification System code;
- 11. For a non-governmental entity, the total annual revenue for the entity in the United States for 2021;
- 12. Broker authority under the Federal Motor Carrier Safety Administration;
- 13. The operating authority numbers, including motor carrier identification number, United States Department of Transportation number, and International Registration Plan number;
- 14. The number of entities with whom the reporting entity had a contract to deliver items or to perform work in New Jersey using vehicles over 8,500 pounds GVWR in 2021;
- 15. The estimated number of subhaulers, vehicles operated by subhaulers, and the number of vehicles operated by subhaulers that operated under the reporting entity's motor carrier authority; and
- 16. The number of vehicles with a GVWR over 8,500 pounds the reporting entity owned and operated in New Jersey in 2021 that do not have a vehicle home base in New Jersey.

7:27-33.7 Vehicle usage by facility information reporting

- (a) An entity subject to this subchapter shall report general information about the vehicle home base of all on-road vehicles as specified at (b) below and information about vehicle operating characteristics for vehicles domiciled or assigned to each vehicle home base as specified at (c) below. Vehicles that accrue a majority of their annual miles in New Jersey, but are not assigned to a particular location in New Jersey, must be reported as part of the headquarters or another location where the vehicles' operation is managed.
- (b) An entity subject to this subchapter shall report the following information for each vehicle home base:
 - 1. Facility address including street name, city, state, and zip code;
 - 2. Facility type category as listed at N.J.A.C. 7:27-33.1;
 - 3. Name of responsible official;
 - 4. Responsible official's email address;
 - 5. Whether the facility is owned or leased by the entity;
 - 6. What type of fueling infrastructure is installed at the facility;
 - Whether the refueling infrastructure was initially installed on or after January 1,
 2010; and
 - 8. The types of trailers the reporting entity pulls, if it has tractors assigned or domiciled at this facility.
- (c) For each vehicle home base, an entity may report the information specified at (c)1 through 6 below, grouped by vehicle body type, as listed at N.J.A.C. 7:27-33.1, and weight

class bins and fuel types, as specified by the Department. Alternatively, an entity may complete responses for each individual vehicle and include the vehicle's body type, weight class bin, and fuel type. If applicable, an entity shall separately report vehicles dispatched under their brokerage authority. When responding, each vehicle shall only be counted once for each response. An entity subject to this subchapter shall report the following information:

- 1. Number of vehicles in each vehicle group;
- 2. The percent of the vehicles in each vehicle group with operating characteristics including, but not limited to: daily mileage, usage patterns, refueling, trailer towing, and other such characteristics as specified by the Department;
- 3. The average annual mileage for a typical vehicle in this vehicle group;
- 4. The average length of time a typical vehicle in this vehicle group is retained by the reporting entity after acquisition;
- 5. Whether the reporting entity is the fleet owner for this group of vehicles, or if they are dispatched under the reporting entity's brokerage authority; and
- 6. The start and end date of the analysis period selected by the reporting entity pursuant to (d) below.
- (d) An entity shall use annual or quarterly data averaged for work days during the period selected to determine responses or alternatively may select a different time period. For example, if an entity selects annual data to determine vehicle daily mileage, the entity must average the annual mileage accrued based on the number of workdays that year.

- 1. A shorter analysis period may be used if the reporting entity deems it more representative of periods of high vehicle utilization when answering questions about typical daily operation. For example, if a reporting entity with seasonal workload fluctuations determines that a week or month during the busy season is representative, average the data records for that week or month when determining a response.
- 2. If an alternative analysis period is used, the reporting entity must be prepared to describe their reasoning at the request of the Department pursuant to N.J.A.C. 7:27-33.5(b).
- (e) Responses for items at (c)1 through 5 above for a vehicle group at one location may be repeated for the same vehicle group at another vehicle home base if the respondent determines that the operation at that location is substantially similar to another location.
- (f) A broker shall provide information about vehicle usage that is dispatched under contract. For example, if a broker hires a truck to move a load, only the miles driven under that contract are required for the response. If known, the broker may voluntarily report information about the miles driven outside the contract.

CHAPTER 27A

AIR ADMINISTRATIVE PROCEDURES AND PENALTIES

SUBCHAPTER 3. CIVIL ADMINISTRATIVE PENALTIES AND REQUESTS FOR ADJUDICATORY HEARINGS

7:27A-3.10 Civil administrative penalties for violation of rules adopted pursuant to the Act

(a) - (/) (No change.)

(m) The violations of N.J.A.C. 7:27, whether the violation is minor or non-minor in accordance with (q) [through], (r), (s), or (t) below, and the civil administrative penalty amounts for each violation are as set forth in the following Civil Administrative Penalty Schedule. The numbers of the following subsections correspond to the numbers of the corresponding subchapter [in] at N.J.A.C. 7:27. The rule summaries for the requirements set forth in the Civil Administrative Penalty Schedule in this subsection are provided for informational purposes only and have no legal effect.

CIVIL ADMINISTRATIVE PENALTY SCHEDULE

1. -30. (No change.)

31. [(Reserved)] The violations of N.J.A.C. 7:27-31, Advanced Clean Truck Program, and the civil administrative penalty amounts for each violation, per vehicle, are as set forth in the following table:

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<u>Citation</u>	Rule Summary	<u>n</u>	<u>e</u>	<u>e</u>	<u>e</u>	<u>Offense</u>
N.J.A.C. 7:27-31.4	Claiming credits for a zero	NM	\$2,50	\$5,00	\$12,5	\$30,000
	emission vehicle or near zero		0	0	00	
	emission vehicle not sold to an					
	ultimate purchaser in New					
	Jersey					
N.J.A.C. 7:27-31.4(g)	Failure to meet Compliance	NM	\$2,50	\$5,00	\$12,5	\$30,000
	Determination as required at 13		0	0	00	
	CCR § 1963.3					
N.J.A.C. 7:27-31.4(g)	Failure to report sales	M	\$500	\$1,00	\$2,50	\$7,500
	information as required at 13			0	0	
	CCR § 1963.4(a)					
N.J.A.C. 7:27-31.4(g)	Failure to report credit transfers	M	\$500	\$1,00	\$2,50	\$7,500
	as required at 13 CCR §			0	0	
	1963.4(b)					

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<u>Citation</u>	Rule Summary	<u>n</u>	<u>e</u>	<u>e</u>	<u>e</u>	<u>Offense</u>
N.J.A.C. 7:27-31.4(g)	Failure to report class 2b - 3	M	\$500	\$1,00	\$2,50	\$7,500
	credit declaration as required at			0	0	
	13 CCR § 1963.4(c)					
N.J.A.C. 7:27-31.4(g)	Failure to retain records as	M	\$500	\$1,00	\$2,50	\$7,500
	required at 13 CCR § 1963.4(d)			0	0	
N.J.A.C. 7:27-31.4(g)	Failure to make records	M	\$500	\$1,00	\$2,50	\$7,500
	available as required at 13 CCR §			0	0	
	1963.4(c)					

33. [(Reserved)] The violations of N.J.A.C. 7:27-33, Fleet Reporting Requirements, and the civil administrative penalty amounts for each violation are as set forth in the following table:

^{32. (}No change.)

						Fourth
						and Each
		Type of	First	Second	Third	Subseque
		<u>Violatio</u>	<u>Offens</u>	<u>Offens</u>	Offens	nt
<u>Citation</u>	<u>Class</u>	<u>n</u>	<u>e</u>	<u>e</u>	<u>e</u>	<u>Offense</u>
N.J.A.C. 7:27-33.4(a)	Failure to submit	NM	\$2,000	\$4,000	\$10,00	\$30,000
					0	
N.J.A.C. 7:27-33.4(a)	Omission of required	М	\$500	\$1,000	\$2,500	\$7,500
	information specified at					
	N.J.A.C. 7:27-33.6 and					
	33.7					
N.J.A.C. 7:27-33.4(b)	Failure to certify	М	\$2,000	\$4,000	\$10,00	\$30,000
					0	
N.J.A.C. 7:27-33.5(a)1	Failure to maintain	M	\$500	\$1,000	\$2,500	\$7,500
through 4	records					
N.J.A.C. 7:27-33.5(a)	Failure to make records	М	\$500	\$1,000	\$2,500	\$7,500
	readily available					
N.J.A.C. 7:27-33.5(b)	Failure to respond to an	М	\$500	\$1,000	\$2,500	\$7,500
	information request					

						Fourth
						and Each
		Type of	First	Second	Third	Subseque
		<u>Violatio</u>	<u>Offens</u>	<u>Offens</u>	<u>Offens</u>	nt
Citation	Class	<u>n</u>	<u>e</u>	<u>e</u>	<u>e</u>	<u>Offense</u>
	from the Department in					
	a timely manner					

(n) – (u) (No change.)