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ENVIRONMENTAL PROTECTION

AIR QUALITY, ENERGY, AND SUSTAINABILITY

DIVISION OF AIR QUALITY

Advanced Clean Trucks Program and Fleet Reporting Requirements

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

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

Proposed: April 19, 2021, at 53 N.J.R. 588(a).

Adopted: November 1, 2021, by Shawn M. LaTourette, Commissioner, Department of Environmental Protection.

Filed: November 22, 2021, as R.2021 d.146, **with non-substantial changes** not requiring additional public notice and comment (see N.J.A.C. 1:30-6.3).

Authority: N.J.S.A. 13:1B-3(e), 13:1D-9, 26:2C-1 et seq., particularly 26:2C-8.1 et seq., 26:2C-37 et seq., and 48:25-1 et seq.

DEP Docket Number: 05-21-03.

Effective Date: December 20, 2021.

Operative Date: December 31, 2021, in accordance with N.J.S.A. 26:2C-8.a.

Expiration Dates: Exempt, N.J.A.C. 7:27;

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

Recognizing that climate change poses a severe threat to New Jersey's environment, human health and welfare, security, and economy, the New Jersey Legislature enacted the

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Global Warming Response Act (P.L. 2007 c. 112; P.L. 2018 c. 197) (GWRA), which requires the State, through coordinated actions across the public and private sectors, to reduce emissions of greenhouse gases and other climate pollutants to at least 80 percent below their 2006 levels by the year 2050. This is known as the State's 80x50 Goal. The Department is adopting the new rules and amendments herein as part of a comprehensive strategy to implement relevant provisions of the GWRA and is doing so, in accordance with the New Jersey's Global Warming Response Act 80x50 Report, October 15, 2020,

<https://www.nj.gov/dep/climatechange/docs/nj-gwra-80x50-report-2020.pdf> (80x50 Report)

that the Department was required to submit to the Legislature pursuant to the GWRA.

This rulemaking will enable the State to reduce emissions of carbon dioxide (CO₂) oxides of nitrogen (NO_x), and fine particulate matter (PM_{2.5}) from the transportation sector by incorporating by reference the State of California's Advanced Clean Trucks (ACT) regulation, which requires 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 (ZEVs) sold in New Jersey. In addition, the adopted rulemaking requires a one-time reporting to enable the Department to obtain information that will inform future decisions concerning further emission reductions from the transportation sector.

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

The Department held a virtual public hearing on this rulemaking on May 20, 2021, at 9:00 A.M., through the Department of Environmental Protection's (Department) video conferencing software, Microsoft Teams. Peg Hanna, Assistant Director for the Division of Air

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Quality, served as hearing officer. Thirty-two people provided oral comments at the public hearing. After reviewing the written comments received during the public comment period, the hearing officer recommended that the Department adopt the proposed rulemaking with the modifications described below in the responses to comments and in the Summary of Agency-Initiated Changes. The Department accepts the hearing officer's recommendations.

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

Department of Environmental Protection

Office of Legal Affairs

401 East State Street, 7th Floor

Mail Code 401-04L

PO Box 402

Trenton, New Jersey 08625-0402

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

Summary of Public Comments and Agency Responses:

The Department accepted comments on the notice of proposal through June 21, 2021. The following individuals provided timely written and/or oral comments:

1. James Appleton, on behalf of New Jersey Coalition of Automotive Retailers

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2. Mary Barber, Director of Regulatory and Legislative Affairs of the Environmental Defense Fund

3. Brett Barry, on behalf of Clean Energy

4. Gary Bear

5. Eric Benson, on behalf of Clean Water Action and other organizations: BlueWaveNJ;

Food and Water Watch; Make the Road Action; Our Revolution Monmouth

6. Bill Beren, Transportation Chair for the Sierra Club of New Jersey

7. Matthew Bewley, volunteer with Sierra Club

8. Uchenna Bright, on behalf of Environmental Entrepreneurs

9. Denise Brush

10. Patrick Campbell, on behalf of Cummins Inc.

11. Ray Cantor, on behalf of the American Fuel & Petrochemical Manufacturers, American Petroleum Institute, Bus Association of New Jersey, Chemistry council of New Jersey, Consumer Energy Alliance, New Jersey Business and Industry Association, New Jersey Chamber of Commerce, New Jersey Food Council, New Jersey Gasoline, C-Store Automotive Association, and New York Shipping

12. Ray Cantor, New Jersey Business and Industry Association

13. John Carlson, on behalf of DSM North America, eBay, Etsy, IKEA, and Unilever

14. Candace Carpenter, as Vice President, Legal and Government Affairs of Hexagon Agility, Inc.

15. Elizabeth Cerceo

16. Lee Clark, New Jersey League of Conservation Voters

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17. Walter Clarke
18. James Cobb, New York Shipping Association, Inc.
19. Rachel Dawn Davis, Public Policy and Justice Organizer with Waterspirit
20. Eric DeGesero, Fuel Merchant's Association of New Jersey
21. Eve Gable-Frank, ChargeVC
22. Michael Egerton, New Jersey State Chamber of Commerce
23. Robert Erickson
24. Gustav Escher, Center for Regenerative Community Solutions
25. Zachary M. Fabish, on behalf of the Sierra Club and its New Jersey members
26. Dawn Fenton, Volvo Group North America
27. Timothy French, Truck and Engine Manufacturers Association
28. Kim Gaddy, South Ward Environmental Alliance
29. Daniel Gage, NGV America (South Jersey Industries agrees with the comments provided by NGVA)
30. Jacqueline Gelb, Navistar, Inc.
31. Michael Giaimo, American Fuel and Petrochemical Manufacturers and the American Petroleum Institute
32. Amy Goldsmith, New Jersey State Director for Clean Water Action
33. Hunter Griffin, New Jersey Business and Industry Association
34. Richard Gupton, Agricultural Retailers Association
35. Kathy Harris, Natural Resources Defense Council, incorporating by reference the comments of the Coalition for Healthy Ports (CHP)

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36. Dennis Hart, Chemistry Council of New Jersey
37. Jeanne Herb, New Jersey Climate Change Alliance
38. Sharon Herson
39. Charles Hockey
40. Sherman James, Climate Change Mitigation Technologies LLC
41. Jasmine Jennings, Earth Justice
42. Claire Johnson, Hyzon Motors Inc.
43. Zachary Kahn, Tesla
44. Carol R. Katz, Bus Association of New Jersey
45. Glen Kedzie, American Trucking Associations
46. Anne Kelly, Ceres BICEP
47. Dan Kennedy, Utility and Contractors Association of New Jersey
48. Lois Kiely
49. Henry Knabe on behalf of H.K. Truck Services Inc.
50. Gregg Lanez
51. Alana Langdon, Nikola Corporation
52. Robert Laumbach
53. Richard Lawton, New Jersey Sustainable Business Council
54. Raymond Lesniak, New Jersey Senator (ret.)
55. Brian Lestini on behalf of Steven D. Averbuch, Elizabeth Cerceo, Brian J. Lestini,
Christine D. Berg, and Joan H. Schiller
56. Marsha Love

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57. Sarah Mack

58. Lois Maglio

59. Benjamin Mandel and Meredith Alexander, CALSTART

60. Benjamin Mandel on behalf of the coalition comments of Arrival, CALSTART, ChargePoint, EVgo, Hyzon Motors, Lion Electric, Nikola, Xos Trucks, and Zeem Solutions

61. Debra Coyle McFadden, New Jersey Work Environment Council

62. Michael McGuinness, NAIOP NJ, the Commercial Real Estate Development Association

63. Andrew McNally, of South Jersey Industries

64. Eric Miller, NJ Energy Policy Director, Natural Resources Defense Council

65. Sean Mohen, Executive Director, Tri-County Sustainability

66. Elvin Montero, Director of Communications and Issues Management for the Chemistry Council of New Jersey

67. Chris Nevers, Rivian

68. Rebecca Newberry, joint comments submitted on behalf of BlueGreen Alliance and other organizations: New Jersey Work and Environment Council; Jobs to Move America; International Brotherhood of Electric Workers New Jersey; International Brotherhood of Electrical Workers Local 94; NJ State Council Utility Workers Union of America, Teamsters Local 469; Teamsters Joint Council 73; Service Employees International Union 32BJ; New Jersey Education Association; International Federation of Professional and Technical Engineers 194; American Federation of Teachers New Jersey; Health Professionals and Allied Employees, AFT; United Food and Commercial Workers 152; Jersey Renews

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69. Jimmy O'Dea, Union of Concerned Scientists

70. Doug O'Malley, on behalf of Environment New Jersey and other signatory organizations and medical professionals: Ceres; ACEEE; NJ Sustainable Business Council; EDF; The Nature Conservancy; Tri-State Transportation Campaign; Arrival; Sunowner Inc.; Marla Guzman; GreenLatinos; Health Care Without Harm; NJ Conservation Foundation; Clinicians for Climate Action New Jersey; NAACP NJ State Conference; NJ Action Together; Union of Concerned Scientists; NJ League of Conservation Voters; Steven Averbuch; Catherine Chen

71. Doug O'Malley, Director of Environment New Jersey

72. Frank M. Pezzolla, Frank's Truck Center, Inc.

73. Ed Potosnack, New Jersey League of Conservation Voters

74. Jean Publee

75. Eric Raphael, President of Irvin Raphael, Inc.

76. Eric Raphael, New Jersey School Bus Contractors Association

77. John Reichman, Chair of BlueWave New Jersey's Environment Committee

78. Ashley Remillard, Hexagon Agility, Inc.

79. Sal Risalvato, New Jersey Gasoline, C-Store, Auto Association

80. Alli Gold Roberts, Director of State Policy, Ceres

81. Paula Rogovin, Coalition to Ban Unsafe Oil Trains

82. Steve Rush, Carbon Express, Inc.

83. Michael Seilback, American Lung Association

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84. Nicky Sheats, on behalf of the New Jersey Environmental Justice Alliance (NJEJA); Ironbound Community Corporation was an additional signatory; the NJEJA noted that it incorporated by reference the comments submitted by the Coalition for Healthy Ports (CHP)

85. Nicky Sheats, New Jersey Environmental Justice Alliance

86. Marcus Sibley, on behalf of NAACP, New Jersey State Conference

87. Jonathan Smith and contributor Nicky Sheats, on behalf of the Coalition for Healthy Ports and Earthjustice; other organizations signing on in agreement include: BlueWaveNJ; Food & Water Watch; Make the Road Action; Our Revolution Monmouth; and Union of Concerned Scientists

88. Kenny Stein, Institute for Energy Research

89. Donald Stern, Indivisible Highland Park

90. Orville Thomas, Lion Electric Co.

91. Berenice Tompkins, on behalf of Jersey Renews and its partner and ally organizations: Action Together New Jersey; Central Jersey Coalition Against Endless War; Clean Water Action; Drawdown NYC; Environment New Jersey; GreenFaith; Indivisible Highland Park; Make the Road New Jersey; Rutgers Postdoc Union, AAUP-AFT; NJ Work Environment Council; New Jersey Sierra Club; UU FaithAction NJ; Wind of the Spirit; Divest NJ; Metuchen-Edison-Piscataway Branch, NAACP; NAACP ECJ Committee, NAACP; National Council for the Occupational Safety and Health; The Pachamam Alliance

92. Berenice Tompkins, New Jersey Work Environment Council

93. Joe Tompkins, H.A. DeHart & Son

94. Gail Toth, New Jersey Motor Truck Association

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95. Anthony Trapasso, President of Belair Transport, Inc.

96. Keith Voos, NAACP, New Jersey State Conference Environmental and Climate Justice

Committee

97. Mark Warner, ChargeVC

98. Sean Waters, Daimler Trucks

99. Chloe Williams, President of B.R. Williams, Inc.

100. Lesniak Institute for American Leadership submitted comments on behalf of 21

individuals who expressed support for the adoption of the proposed rules.

Margot Alten
Danielle Amodeo
Mary Botteon
Nancy Chismar
Christina DeRispiris
Lucy F.
Tito Galdo
Asha Gangasarran
Anna Jacus
Elizabeth Jonach
Doris Lin
John Lynn
Elise Margulis
E. Neal
Brooks Obr
Dogan Ozkan
M. S.
Stephanie Stone
Ken Dolsky
Debra Ashton
Nancy Chismar

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101. Lesniak Institute for American Leadership submitted comments on behalf of one individual who expressed support for the adoption of the proposed rules, but indicated a desire for rules to address emissions from buses as well.

Linda Banzaca

102. Lesniak Institute for American Leadership submitted comments on behalf of 26 individuals who expressed general concerns about the impacts of current truck emissions and support for cleaner trucks.

John Bell
Ann Briscese
Nancy Carringer
Rosemarie Ceasar
Annette Coomber
Heide Coppotelli
Nora Coyle
Brett Dennison
Ken Dolsky
Lyn Du Mont
Jeff Fromberg
Kerry Heck
Jann Jasper
Laura Long
Frances Mackiewicz
Elise Margulis
Gina Mazza
Lisa Mazzola
Dogan Ozkan
Mike Potter
Joann Ramos
Caryl Sawyer
Corey Schade
Naomi Sobo
Charlie Starkey
Zorina Weber

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103. Lesniak Institute for American Leadership submitted comments on behalf of 12 individuals who indicated that they want to ban dirty trucks.

Mike Anuszewski
Jane Armstrong
Andrew Arneson
Dale Barth
Renee Becker
Susan Collins
Ari G.
Avinash Kachhy
Lilly Knuth
Evelyn Lilly
Julie Sacco
C. Yee

104. Lesniak Institute for American Leadership submitted comments on behalf of 20 individuals who expressed concerns about the current state of the environment.

Carol Davis
Holly Hall
C. Marie Hlushtchyk
Meg Kelly
Susan Lantow
Janet Laur
Cecile Lemay
Denise Lytle
Barbara Maddalena
Nelson Molina
Susan Nierenberg
D. O'Brien
James Olszewski
Patti Packer
Sandra Parciak
Diane Rohn
Maria Scaglione
Mary Shabbott
Veronica Sidhu
Gigi Vento

105. The Partnership for a Zero Emission Future

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106. Sierra Club submitted a form comment on behalf of 578 individuals urging the Department to move forward with adoption of the proposed rules in calendar year 2021.

107. The Sierra Club submitted a form comment on behalf of four individuals who personalized their message to indicated that in addition to the adoption of the proposed rules, the Department should be taking further action to address pollution and/or climate change:

Louise Berkman
Daniela Gioseffi
Hilary Malyon
Eloise Marsh

108. The Sierra Club submitted a form comment on behalf of two individuals who personalized their message to indicate that adoption of the proposed rules should be accompanied by financial incentives:

Wendy Gordon
Sascha Marbury

109. The Sierra Club submitted a form comment on behalf of one individual who personalized his message to indicate support for the concept of requiring all electric trucks:

Frederick White

110. The following submitted an identical form comment:

Ruth Adams
Debra Ashton
Jacquelyn Barth
Elliot Beneroff
Hayley Berliner
Susan Bernard
Cori Bishop
Anne Bloomenthal
Sharon Bolton
George Bourlotos
Lorraine Brabham

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Marinus Broekman
Rachel Brown
Donna Browne
Linda Burger
Sharon Callahan
Rebecca Canright
John Cantilli
Nicholas and Joanne Cartabona
Julia Caspar
Jeff Charone
Kelly Choi
Joe Ciccita
Morgan Clark
Susan Clark
Jarrett Cloud
Donna Connor
Morgan Cormia
Nancy Cormia
Bechi Currier
Linda DeLap
Julia DeVito
Louis Discepola
Judy Fairless
Steven Fenster
Myrna Fichtenbaum
Christina Gavin
Marian Glenn
Roe Goodman
Mikhail Grabois
Roger Graham
Gregory Grillo
Francis Groff
Alan Gross
Kenneth Grosso
Florence Hadnot
Elizabeth Hamblet
Amy Hansen
Kathy Hart
Chris Hazynski
Janie Horowitz
George Hurst
Takako Ishii-kiefer
Doris Jackson

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April Jacob
Stefanie Johnson
John Keim
Angela Knable
Ashley Kouo
Thomas Koven
Henry Krause
Robert Langbein
Janet Larson
Sara Lazarus
Niki Learn
Sara Lilja
Joanne Linden
Joann Linden
JoAnn Lopez
Mark Lowenthal
Denise Lytle
Linda Mack
Janice Mackanic
Frances Mackiewicz
Sanjeev Majoo
Lisa Matthews
Jo Ann McGreevy
Linda McKillip
Christina Mecca
Barbara Miller
Vincent Mogavero
Linda Mullaney
Gina Norton
Doug O'Malley
Robert Orgera
Barbara Pal
Marya Parral
John Passante
Michael Paxton
Rich Pecha
Joann Pichiarello
Maryanne Pilgram
Stamatina Podes
Justin Powell
Lisa Quartararo
Edward Ramirez-Wright
Jesse Reyes

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Brian Reynolds
Michael Richtel
Dean Robb
Maurice Rosenstrauss
Linda Rossin
Sharon Rothe
Marjorie Royle
Marilyn Russell
Corey Schlade
John Schreiber
Brian Schwartz
Karen Seidmon
Kim Sellon
Ken Sharp
Janet Sheridan
Carol Spillane-Mueller
Marion Steininger
Angela Stuebben
Ronald Sverdlove
Victor Sytzko
Joan Thuebel
Stephen Troyanovich
Walter Tulys
Phillip Unetic
Ann Van Hise
Lee Varian
Susan Walden
Patsy Wang-iverson
Natalie Wass
Stuart Weinstock
Tina Weishaus
Scott Whitener
Elizabeth Yerkes

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

ADVANCED CLEAN TRUCKS PROGRAM

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Request for Extension of Comment Period

1. COMMENT: Due to the complexity of the rules and the significant impact the rules will have on the State's truck and bus industries, as well as businesses that rely on trucking to distribute and receive goods, an extension of time is requested to submit comments. (11)

2. COMMENT: Additional time is needed to read California's regulatory document because the Department proposes to adopt California's rule by reference and relies on California's analysis, with adjustment made based on New Jersey's relative size and vehicle miles traveled, for its own economic, social, environmental, and other analyses. (11 and 33)

RESPONSE TO COMMENTS 1 AND 2: A 60-day public comment period was provided, consistent with the requirements of the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. (APA). On May 20, 2021, the Department held a public hearing at which 32 people testified. In addition to publication of the notice of proposal in the April 19, 2021, New Jersey Register, on April 14, 2021, the Department provided additional advance notice of the rulemaking on its website, to media outlets maintaining a press office to cover the State House Complex and other media outlets throughout the State, and by email to the Department's rulemaking listserv. Further, the Department conducted stakeholder outreach during the development of this rulemaking on September 10, 2021, and December 21, 2021. During these sessions, the Department notified stakeholders that it was considering a rule proposal to incorporate California's Advanced Clean Truck regulation by reference. Hundreds of individuals and organizations submitted written and verbal comments, which are summarized and addressed in this notice of adoption. Given the volume of comments submitted in response to the proposal within the 60-day period, the Department believes that there was ample opportunity to provide comments and discuss the

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rulemaking. Therefore, an additional period for public comment would be unlikely to result in the Department receiving comments relevant to the proposed rules that raise issues or provide new information, data, or findings that were not previously raised or provided during the development of the proposed rules or during the 60-day comment period.

General Support

3. COMMENT: The Department should adopt California's ACT regulation. (5, 56, 87, 91, and 92)

RESPONSE: The Department acknowledges the commenters' support of the rules.

Support; Specific Reasons

4. COMMENT: The proposal is appropriate from both an environmental protection standpoint and a social justice standpoint. The State must take action before it is too late. (57)

5. COMMENT: New Jersey communities need and deserve equitable access to clean air. The World Health Organization has deemed air pollution a public health emergency that has contributed to 8.8 million premature deaths each year. During the global health pandemic, studies have shown that repeated exposure to air pollution is also linked to an 11 percent increase in mortality for those infected with COVID-19. Medium- and heavy-duty (MDHD) vehicles disproportionately contribute to ongoing climate and air pollution crises. The State must act now to begin to clean and electrify the MDHD vehicle sector. Once purchased, most MDHD vehicles remain on the road for many years. If New Jersey is going to turn the tide on climate change and vehicular air pollution, it must begin replacing the dirtiest trucks as soon as

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possible. The public health and scientific communities are in agreement that there is a need to move much quicker to solve the ongoing air pollution and climate crisis. New Jersey needs to build on its landmark climate laws by adopting the California ACT regulation. This will save lives, create new green jobs and mitigate the impacts of climate change. The New Jersey Department of Environmental Protection must move forward this year with the adoption of California's ACT regulation. (106)

6. COMMENT: The proposed rules will significantly decrease toxic air and climate pollution from New Jersey's transportation sector, which will make communities healthier and help the State reach the goals laid out in the GWRA and Multi-State Medium- and Heavy-Duty Zero-Emission Vehicle Memorandum of Understanding. For the health and safety of New Jersey communities and its climate, please adopt California's ACT regulation as soon as possible. (110)

7. COMMENT: The Department should adopt the proposed rules for a variety of reasons, including improvements to air quality, reductions in negative health impacts generally, reductions in negative health impacts for overburdened communities more specifically, and/or reductions in negative environmental impacts. (100)

8. COMMENT: The number of 18-wheeler trucks that roar down Route 322 through the middle of Glassboro every day, driving too fast and leaving plenty of air pollution in their wake, is surprising. Things are worse in northern New Jersey port cities like Newark, Elizabeth, and Bayonne. But there is a lot of truck transportation in all directions through New Jersey, whether it is headed east to Atlantic City, west to Camden and Trenton, or up and down the east coast on the New Jersey Turnpike. All of those trucks emit diesel pollution, which adversely affects the health of New Jersey residents, leading to high rates of asthma and other lung related

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diseases. The Department should adopt the Advanced Clean Truck regulation from California to promote conversion of diesel trucks to electric. Implementing the Advanced Clean Truck regulation will lower our carbon footprint and protect the health of New Jersey residents and their families. (9)

9. COMMENT: Electric trucks could create good new jobs with the installation of charging stations, vehicle maintenance, and more. In the wake of a public health crisis that is worsened by air pollution and that has left thousands of New Jerseyans unemployed, the State needs policies like this one that can put people back to work tackling climate change and making its communities healthier. (58)

10. COMMENT: The Department should adopt California's ACT regulation. Electrification in the MDHD vehicle sector is critical to attaining New Jersey's clean energy goals and was identified as a priority in the *2019 Energy Master Plan: Pathway to 2050*, https://nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf (2019 EMP), the 80x50 Report, and the regional Multi-State Medium-Duty and Heavy-Duty Vehicle Electrification Memorandum of Understanding. Electrification in the MDHD vehicle sector will also have significant implications for improved public health. If New Jersey is successful in simultaneously increasing the fraction of renewable energy used for electricity generation, the State will see increased benefits from reduced criteria air pollutants. These criteria pollutants have a profound impact on public health, especially for overburdened communities that are often located near high-use travel corridors. (97)

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11. COMMENT: The proposed rules will not only improve life for New Jersey residents, but also will be an incentive nationwide for the electrification of transportation and trucks in particular.

The proposed rules should be implemented as quickly as possible. (77)

12. COMMENT: The Department's adoption of California's ACT regulation would constitute an important first step in remediating long-standing public health disparities in New Jersey's urban centers. The proposed rules are consistent with the commitments of Governor Murphy and the Department to reduce greenhouse gas emissions to 80 percent below 2006 levels by 2050. (96)

13. COMMENT: The Department should adopt California's ACT regulation because it is a necessary and appropriate exercise of the Department's regulatory authority in order to secure substantial reductions in CO₂ and local air toxic pollution caused by the approximate 250,000 Class 3 through Class 8 diesel trucks registered in New Jersey. These MDHD diesel trucks account for one-third of all transportation sector CO₂ emissions in New Jersey. (40)

14. COMMENT: The Department should adopt California's ACT regulation because it supports New Jersey's drive to reduce emissions and improve the environment. (67)

15. COMMENT: The Department should adopt California's ACT regulation because it will play an invaluable role in ensuring sustained and systematic progress in transitioning New Jersey's MDHD vehicles to zero-emission technologies. Transforming the transportation sector to zero emissions has significant health benefits. Additionally, the economics of electrified heavy-duty vehicles are incredibly compelling for end-users. Customers may recoup their investment in certain MDHD ZEVs through operational savings in approximately two-to-three years. (43)

16. COMMENT: The Department has made significant progress in designing and promulgating a suite of regulations that will greatly reduce pollution from both stationary and mobile

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sources. Vehicle emissions account for the largest portion of climate pollution in New Jersey. Additionally, despite being a small percentage of overall vehicles on the road, heavy-duty vehicles are a significant source of greenhouse gas emissions and criteria pollutants. For those reasons, swift adoption of the ACT regulation is critical for New Jersey to meet the climate crisis head-on and improve the health of New Jersey's residents, especially those in the overburdened frontline communities that bear a disproportionate amount of heavy-duty vehicle pollution. Adoption of the proposed rules is both legally and technically feasible today. Ultimately investments in MDHD ZEVs will save the State money and support the growth of the clean energy economy. (64)

17. COMMENT: Adoption of California's ACT regulation is a necessary next step for New Jersey and the other 14 states that committed to a Multi-State Medium-and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding to decarbonize all truck and bus sales by 2050. In response, more than 50 businesses, institutions, and investors -- including several major New Jersey fleet operators -- signed a letter sharing their support for the MOU and the implementation of a medium-and heavy-duty vehicle electrification action plan. By driving market transformation, incorporating the ACT regulations will enable New Jersey and other states to follow through on their commitments and simultaneously help businesses to remain competitive in a market where their customers, investors, patients, students, and employees increasingly expect them to lead on sustainability. (46)

18. COMMENT: The adoption of California's ACT regulation will put New Jersey on a path to reduce greenhouse gas emissions. (89)

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19. COMMENT: The Department's proposed rules to incorporate California's ACT regulation are a great step in the right direction of securing clean air for all communities, especially those disproportionately burdened, and helping the State achieve our emissions reductions goals. Black, Hispanic, and Asian Americans are disproportionately exposed to fine particulate matter. The conversion to zero-emission MDHD vehicles, as well as light-duty zero-emission vehicles, would decrease negative health impacts such as premature deaths and asthma attacks in New Jersey. (73)

20. COMMENT: The ongoing shift in the State's economy away from manufacturing and towards warehousing and shipping will increase heavy-duty truck traffic and increase the amount of harmful particulate and greenhouse gas emissions, thereby undermining the State's climate goals. It is, therefore, critical that the Department adopt the proposed rules, even though the California regulations do not go far enough to fully mitigate the impacts of pollution caused by climate change. (6)

21. COMMENT: The Department's adoption of California's ACT regulation will not only reduce greenhouse gases and improve health and air quality, but also will also provide economic benefits. (8, 46, 80, and 90)

22. COMMENT: New Jersey must adopt policies that maximize job creation by providing family supporting, and community-supporting, union jobs. Increasing the number of electric trucks on the road will reduce harmful emissions and create good new jobs. Millions of New Jersey residents are suffering from the damaging effects of living with unhealthy air quality. According to the 2021 American Lung Association's State of the State Report, eight New Jersey counties received an "F" for air quality. The worst of this pollution burden is concentrated

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disproportionately in New Jersey's low-income communities and communities of color.

Transitioning MDHD vehicles to zero emissions alternatives is a critical component to a low-emissions future. In addition to their sizable greenhouse gas impact, these vehicles are responsible for an outsized portion of harmful, localized pollution from transportation. (68)

23. COMMENT: The proposed rules will drive innovation and investment in clean technology and manufacturing, create jobs, provide long-term cost-savings to companies, mitigate climate risk, improve public health, and reduce healthcare costs. They will also allow businesses to meet climate goals. (80)

24. COMMENT: The proposed rules will reduce energy consumption and emissions from the transportation sector and help meet Federal air quality standards and greenhouse gas reduction mandates. The California Air Resources Board (CARB) determined that the ACT Regulation will speed the transition to MDHD ZEVs and provide significant benefits to fleet owners, as well as health and environmental benefits. (2)

25. COMMENT: Vehicle electrification creates substantial benefits for numerous stakeholders, including New Jersey residents who do not own plug-in electric vehicles, and especially overburdened communities that will benefit from cleaner air. Electrifying the vehicle fleet, and indeed, doing so rapidly, is, thus, critical to the environmental and economic health of New Jersey. The operations savings realized by fleet owners and consumers who choose electric options will provide a boost to local economies, as those savings will be largely reinvested into local, labor-intensive services. The proposed rules will expand the number of electric truck and bus batteries available for vehicle-to-grid uses, enhancing grid resilience and, thereby, driving down costs. The buildout of electric vehicle infrastructure will also support high-quality jobs.

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Further, by adopting California's ACT regulation, New Jersey will benefit from the increased vehicle electrification. As the Department noted in the notice of proposal, "by transitioning from gasoline and diesel combustion engines to zero-emission engines, the proposed rulemaking will reduce emissions of CO₂, NO_x, and PM_{2.5}, including PM_{2.5}'s highly warming components, black carbon." Likewise, decarbonizing MDHD vehicles "provides additional benefits by locally reducing criterial 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." (25)

26. COMMENT: The proposed rules will help tackle climate, public health, and socio-economic crises together. (92)

27. COMMENT: The Department should incorporate California's ACT regulation. Adopting the rules as soon as possible will help put New Jersey on the path to eliminating truck pollution by 2050 as required under the Multi-State Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding, and it will make New Jersey a leader as the first state outside of California to adopt the rules. Further, the proposed rules will create jobs, fight climate change, and reduce local pollution, which causes health impacts like asthma. (7)

28. COMMENT: Adopting California's ACT regulation supports cleaner air, a more equitable transportation system, and the State's health-protective climate targets. The ACT regulation will contribute to local benefits and can lead the national dialogue on healthy air. (83)

29. COMMENT: The rules will significantly decrease toxic air and climate pollution from New Jersey's transportation sector, which will make the State's communities healthier. (24)

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30. COMMENT: There is a vast amount of literature documenting the direct health effects of diesel emissions across the globe. Research done at Rutgers and the Environmental and Occupational Health Sciences Institute has contributed to that knowledge, while documenting local effects here in New Jersey. Setting aside the CO₂, other greenhouse gases, and black carbon on climate change, the air pollution and health co-benefits alone from accelerating adoption of zero-emission trucks would justify adoption of California's ACT regulation and implementation of the program. (52)

31. COMMENTS: In the wake of a public health crisis that is worsened by air pollution and that has left thousands of New Jerseyans unemployed, the State needs policies like this one that can put people back to work tackling climate change and making communities healthier. Electric trucks will create good new jobs in electric vehicle infrastructure and other areas. (89 and 91)

32. COMMENT: Adopting California's ACT regulation will increase the number of electric trucks, which will reduce harmful emissions and create jobs with fair wages across the supply chain. As the first State after California to propose the rules, New Jersey has a significant opportunity to become a leader on truck electrification. The Department should adopt California's ACT regulation. (70)

33. COMMENT: By adopting California's ACT regulation in New Jersey at this time, the State will set a market-leading example that will help encourage similar action by other states with clean energy goals. The influence of the proposed rules is, therefore, likely larger than just impacts for New Jersey. (97)

34. COMMENT: Child asthma rates in New Jersey's cities are nearly three times higher than the State average. Cancer risks are elevated in the inner cities as well. There are many reasons for

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these health problems, but the MDHD vehicles on New Jersey roads, especially in the cities, are a major factor. (71)

35. COMMENT: New Jersey has some of the highest concentrations of PM2.5 in the U.S. Trucks are a primary culprit when it comes to this local air pollution due to their reliance on combusting diesel fuels. The transition away from polluting trucks must reflect the urgency of the health crisis to which they contribute. (15)

36. COMMENT: The adoption of California's ACT regulation is a reasonable policy solution to meet the goal of improving the health of New Jersey residents while also curbing climate change, which has additional negative health consequences. The proposed rules will significantly lower emissions from MDHD trucks in New Jersey, a significant source of particulate emissions with known adverse effects on health including cancer. (55)

37. COMMENT: The America Lung Association's 2020 State of the Air Report shows that New Jersey continues to have some of the most polluted air in the nation. The proposed rules will improve environmental quality, combat the disastrous effects of climate change, and enhance the health and quality of life for all New Jersey residents. Therefore, the Department should adopt the proposed rules. (54)

38. COMMENT: Exposure to diesel and gasoline emissions are correlated with cancer risk, and people who live near sources of these emissions are at greater risk of certain types of cancer. Cancer is appearing in younger patients, and New Jersey has elevated rates of cancer. The proposed rules will help reduce cancer rates in Jersey City and throughout the State. (50)

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39. COMMENT: Medium- and heavy-duty vehicle electrification is especially relevant from an equity perspective. People living in overburdened communities suffer disproportionately from poor air quality. (97)

40. COMMENT: Throughout the State, millions of New Jersey residents are suffering from the damaging effects of living with unhealthy air quality. In the American Lung Association's 2021 State of the State Report, eight counties received an "F" for air quality. Due to a history of discriminatory land use policies and structural racism, the worst of this pollution burden is concentrated in New Jersey's low-income communities and communities of color, with the majority of bus and freight depots located near or within black, indigenous, and people of color and low-income neighborhoods. With the right policies in place, California's ACT regulation will put New Jersey on a path to reduce greenhouse gas emissions, PM_{2.5}, black carbon, and NO_x in port and freight-adjacent communities. (91)

41. COMMENT: Medium- and heavy-duty trucks are a leading source of air pollution that contributes to a wide range of health impacts, including the onset of childhood asthma, impaired lung function, cardiovascular disease, and even premature death. Adopting California's ACT regulation will reduce emissions and improve the health, well-being, and quality of life in environmental justice (EJ) communities. (41)

42. COMMENT: There exists a significant quantity of truck emissions in environmental justice communities. The adoption of California's ACT regulation is a good first step towards addressing the emissions in overburdened communities because it can deliver health benefits to New Jersey communities by reducing harmful air pollution emissions from MDHD trucks. (84)

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43. COMMENT: The proposed rules will reduce greenhouse gas emissions and improve air quality. They will improve public health, particularly in overburdened communities. (61)

44. COMMENT: Transportation emissions disproportionately impact low-income communities and communities of color. Adopting California's ACT regulation will accelerate the cost-effective deployment of electric, MDHD vehicles, allow businesses to meet financial and climate goals, and significantly reduce air pollution related health impacts across the State. (80)

45. COMMENT: The proposed rules will result in considerable positive health outcomes, particularly among marginalized populations. Additionally, the proposed rules will reduce noise pollution from trucks, mostly at lower vehicle speeds. Environmental noise, like traffic, is linked to sleep disturbance, stress and decreased cognitive performance, increasing the risks for cardiovascular disease, decreased immune function, mental health decline, among other effects. Environmental justice communities suffer disproportionately from high levels of noise. (37)

46. COMMENT: Pollution reduction will improve mental health in frontline communities, namely for expectant mothers who rely heavily on walking, breathing, exercising, and nature immersion. (19)

RESPONSE TO COMMENTS 4 THROUGH 46: The Department acknowledges the commenters' support of the rules.

Concerns about the Environment

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47. COMMENT: The Department should reduce pollution and combat climate change for a variety of reasons, including concerns about air quality; health impacts on plants, animals and/or humans, and/or the physical environment. (104)

48. COMMENT: Air pollution kills. Respiratory diseases, combined with other illnesses, can be fatal. Please pass legislation to clean up the State's air. (48)

RESPONSE TO COMMENTS 47 AND 48: As noted in the notice of proposal Social Impact analysis, the 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 53 N.J.R. at 594, citing 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. *Ibid.* Promulgating the adopted rules will be one of the steps the Department and other State agencies will take to mitigate the impacts of climate change by reducing greenhouse gas emissions, as well as collecting data that will assist the Department in potential future rulemaking efforts intended to further reduce emissions from the transportation sector. 53 N.J.R. at 593. In addition to reducing greenhouse gas emissions, the incorporation of California's ACT regulation is expected to reduce co-pollutants that have an adverse impact on air quality and human health. *Ibid.*

Do Not Delay Adoption

49. COMMENT: The proposed rules will help transform the entire freight industry to benefit New Jersey communities, especially those most burdened by air pollution. It is critical that the

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Department finalize adoption of California's ACT regulation before the end of this year. The urgency of the climate crisis and the ongoing public health harms inflicted on some of the most vulnerable people of New Jersey are powerful factors in favor of the Department finalizing adoption of the proposed rules without delay. (25)

50. COMMENT: The Department's adoption of California's ACT regulation is a necessary first step to address the pollution that has burdened New Jersey's port- and freight-adjacent environmental justice communities for decades. The New Jersey market is ready for electrification now, and there is no legal or policy reason for the Department to delay adoption of the ACT regulation. (87)

51. COMMENT: The Department should adopt California's ACT regulation without delay because it provides an opportunity to clean the air and support robust economic growth in New Jersey. Accordingly, there are both business and political benefits to supporting the proposed rules. (17)

52. COMMENT: The rules should be implemented before 2025, if at all possible. (96)

53. COMMENT: The Department should adopt the proposed rule, but 2024/2025 is too late. (86)

54. COMMENT: Many of New Jersey's counties suffer from poor air quality, which has led to higher asthma rates among children. Diesel emissions from MDHD vehicles are a major source of emissions and there are already many ZEVs that are available or which will soon become available. Thus, the Department should move forward without delay on the proposed rules. (65)

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55. COMMENT: The Department should adopt California's ACT regulation before the end of the calendar year because it is a critical step in mitigating the economic risks and cost associated with transportation-related air pollution and climate change, and in creating a modern and more equitable decarbonized transportation system in the larger transition to a clean energy economy as envisioned in the State's updated 2019 EMP. (53)

56. COMMENT: State policymakers should not wait for a comprehensive Federal program on MDHD vehicles. States can, and should, adopt California's ACT regulation and other policies, while also advocating for a strong national standard. Given the lead time for Federal policy implementation, it is imperative that states start to act now, given the public health emergency that is created by fossil fuel dependent MDHD vehicles. (70)

57. COMMENT: The Department should adopt California's ACT regulation as an emergency measure now, but certainly no later than a 2025 start date. (81)

RESPONSE TO COMMENTS 49 THROUGH 57: The Department acknowledges the commenters' support of the rules. The Department is required, pursuant to the Clean Air Act (CAA), 42 U.S.C. §§ 7401 et seq., to provide a two-year lead time before implementing a California emission standard. Therefore, the Department is adopting the proposed rules in order that the California emission standard is in place in New Jersey for model year 2025. The current Federal emission standard is less stringent than California's ACT regulation, and even if the EPA were to propose a new Federal emission standard, it is unlikely that any proposed Federal regulations could be adopted and implemented by the EPA in the same model year as the Department's adopted rules. For further discussion, see the Response to Comments 224 through 229.

Defer Adoption of the ACT rule

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58. COMMENT: Pursuant to California’s ACT regulation, which the Department proposed to incorporate by reference, the term “model year” equates with calendar year. Under the CAA, states may opt-in to California’s emission standards if they provide the requisite two-year lead time. In its notice of proposal, the Department indicated that the ACT rule would be implemented beginning with model year 2025. Given the target model year for implementation, the Department can defer action until the 2022 calendar year and still provide the necessary two-year lead time. Thus, the Department should defer action, so that it may reconsider adopting California’s ACT regulation, or consider whether the national program, which is expected to be announced by the EPA soon, is a better regulatory option. (18, 26, 27, 45, 49, 76, 82, 93, 95, 99, and 105)

59. COMMENT: The Biden Administration is expected to address emissions from MDHD vehicles in 2021 as part of its actions to address climate change. Consequently, the Department should defer action on the proposed State-level regulations until it can consider the anticipated Federal program. (12, 22, 26, 27, 30, 33, 62, and 79)

RESPONSE TO COMMENTS 58 AND 59: The Department recognizes the potential benefits of a national program and supports the Federal government’s efforts to mitigate the effects of climate change. As of the time of this notice of adoption, however, the EPA has not published a proposed regulation. If the EPA does not act swiftly to address emissions from MDHD vehicles, it is unlikely that any proposed Federal regulations could be adopted and implemented in time to regulate the 2025 model year targeted in the Department’s adopted rules. The Department acknowledges that the incorporation by reference of California’s ACT regulation requires a two-year lead time with respect to the target implementation date, but disagrees that the

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Department's actions should be deferred until the 2022 calendar year. Rather than defer action to consider an unpublished and unknown EPA alternative, the Department analyzed the implications of New Jersey's incorporation by reference of California's ACT regulation and determined that this rulemaking is a necessary component of the State's comprehensive approach to reduce emissions of greenhouse gases and local pollutants from the transportation sector.

A National Program Will Better Serve the State

60. COMMENT: The Department should delay adoption of California's ACT regulation. New Jersey would be better served by advocating for next-tier nationwide emission regulations for MDHD vehicles because a national standard will offer the best means to prevent unintended consequences or subversion of environmental goals. (49, 76, 82, 93, 95, 99, and 105)

61. COMMENT: Instead of adopting California's ACT regulation, the Department should focus on crafting coordinated State and Federal policy that supports the transition to ZEVs through robust infrastructure investment and vehicle purchase incentives that will protect New Jersey jobs. (26, 45, 49, 76, 82, 93, 95, and 99)

62. COMMENT: An EPA lower-NO_x program for commercial vehicles and engines would be much more cost-effective at achieving nearer-term air quality goals than New Jersey's proposed rules, which are State-specific. Likewise, a next-tier nationwide emission-reduction regulatory framework for conventionally fueled trucks will be key to establishing a cost-effective bridge to MDHD ZEVs, because a national program will ensure that businesses and municipalities in each state have access to the full range of powertrain and vehicle solutions they are accustomed to purchasing today, will not be forced to pay premium prices for potentially less reliable

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products, will not be forced to purchase outside their brand preference, and will not seek to purchase vehicles in neighboring states to avoid regulation. Accordingly, New Jersey (as well as the other MOU States) should work for the implementation of EPA's next-tier MDHD regulations as the best option for achieving their respective air quality goals during the bridge years, before significant ZEV-truck market penetration takes hold. (27)

63. COMMENT: The best approach to achieve New Jersey's goal of reducing the environmental impacts of MDHD is to allow the EPA rules on MDHD vehicle emissions to go into full effect, rather than adopting expensive battery electric vehicle mandates that will dramatically slow fleet turnover and the emissions reductions that are being achieved under the Federal standards. (31)

64. COMMENT: The proposed rules are unique to California's financial and fleet composition. Thus, the Department should work with the EPA to develop a national program to achieve the most effective means of reducing emissions and avoid harming New Jersey's trucking industry. (45)

65. COMMENT: Realistic national standards and regulations offer the best way to prevent unintended consequences and detrimental implications for State-based stakeholders. The proposed regulations will do little to help reach the goal of a more sustainable economy and have the potential to have negative implications for the adoption of heavy-duty zero-emission trucks in New Jersey. (26)

66. COMMENT: Reducing transportation emissions will be achieved through a comprehensive strategy that takes a regional and national approach that should include alternative fuels and alternative transportation opportunities. If the Department adopts the proposed rules, New

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Jersey will likely be at a competitive disadvantage with other states that do not adopt the California standards or that may not be as aggressive in mandating reductions. Until a national program to reduce transportation emissions from MDHD trucks is established, it is premature for the Department to adopt the proposed rules. (22)

67. COMMENT: Rather than incorporating by reference California's ACT regulation, the Department should work with the Federal government on a more holistic, flexible, realistic solution to reducing emissions from the trucking industry. A Federal clean truck rule can be much more effective in New Jersey than ACT because a Federal program would take into account the needs of the states and nation better than California's regulation. To date, no other state has adopted California's ACT regulation. It is important for the northeast region to act in a uniform manner given the significant interstate transportation of the region and the market for vehicles. Additionally, there are better methods than those included in the ACT regulation to reduce emissions of carbon and criteria pollutants. Several factors should be included in policy, including incentives, infrastructure, and an all-technology fuel neutral policy that allows for low carbon fuel options that will result in long-term and immediate reductions. But if New Jersey opts into the California program, it will lose leverage to influence the EPA rules, as well as the benefits inherent in a national program. (12 and 33)

68. COMMENT: The proposed rules' approach to ZEV deployment through the development of a credit/deficit system is ill advised because the costs associated with ZEVs make them an impractical technological option at this time. Instead, the Department should focus on a national standard for low or zero-emission vehicles that would allow low-carbon fuels as this is a more viable strategy for achieving carbon emission reductions. (47)

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69. COMMENT: The key to implementing a successful ZEV future for commercial vehicles is through the implementation of a national rule, which New Jersey can help develop. This national rule must include funding to both build out the necessary infrastructure and provide incentives needed to offset the higher initial purchase and life-cycle operating costs of ZEVs. A national program will provide a level playing field among all states and work with all stakeholders to incentivize the market for ZEVs. (1)

70. COMMENT: New Jersey's adoption of California's Advanced Clean Truck regulation will not lead to increased penetration of commercial electric vehicles. New Jersey's commercial vehicle electric charging and fueling infrastructure is not built out to provide customers certainty on where their vehicle can be charged. In addition, New Jersey will need to provide State purchase and infrastructure incentive funding to vehicle customers to encourage adoption and turnover over of existing technology. The Department's goal of increasing electric commercial vehicles is admirable, but the State should delay any regulatory action until the Federal government provides direction later this year on their regulatory scope for MDHD trucks. The delay will provide New Jersey with the opportunity to align with surrounding states to support a national air quality standard that will benefit the entire northeast. (30)

71. COMMENT: The best path forward is through cohesive, national policies in order to facilitate a sustainable marketplace, and help create the necessary charging infrastructure that will ultimately help eliminate emissions from heavy-duty vehicle. National policies offer the most expedient path to the development and adoption of heavy-duty ZEVs. Rather than adopting a sales mandate developed for California's unique conditions, New Jersey would be better served to create a level playing field, advocating for nationwide emissions regulations,

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and incentivizing the creation of electric charging infrastructure and the purchase of electric vehicles to help achieve an electric future. (98)

RESPONSE TO COMMENTS 60 THROUGH 71: As stated in the Response to Comments 58 and 59, the Department recognizes the potential benefits of a national program, but there is currently no national program proposed for consideration or comparison. Thus, the Department analyzed the implications of New Jersey's incorporation by reference of California's ACT regulation and determined that this rulemaking is a necessary component of a comprehensive approach to reduce emissions of greenhouse gases and local pollutants from the transportation sector.

As noted in the Response to Comments 74, 75, and 76, the purpose of California's ACT regulation is to accelerate the sales of electric vehicles in the MDHD sector. While the Department's primary objective of incorporating California's ACT regulation is to accelerate ZEV deployment in New Jersey, the adoption of these rules is not an indication that there is no place for low-carbon fuel technology in the interim market. The deployment of ZEV technology is expected to ramp up over time as a percentage of new vehicle sales. The remaining vehicle sales will continue to come from other technology, including next-tier, conventionally fueled vehicles that will not only have lower greenhouse gas emissions, but lower criteria pollutant emissions as well. Rather than viewing lower NO_x technology and ZEV technology as an "either/or" proposition, the Department views both technologies as part of a comprehensive strategy to lower greenhouse gas emissions and address local air pollutants. Both technologies may be pursued simultaneously, with ZEV technology expected to advance long-term greenhouse gas and local air pollutant emission reduction goals and lower NO_x technology

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expected to address local air pollutants and greenhouse gas emissions in the near term. To that end, the Department will monitor, participate, and coordinate with any Federal efforts to implement low or zero-emission MDHD and/or low-carbon fuel standards and the incorporation by reference of California's ACT regulation will not serve as a barrier to participation in those policy discussions.

The Department recognizes that as a result of the State's incorporating by reference California's ACT regulation, businesses may have concerns that New Jersey industries will be at a competitive disadvantage. However, the Department does not agree that the solution is to wait for a national standard that will level the playing field. In developing this rulemaking, the Department was aware that neighboring states might adopt California's ACT regulation. Specifically, the Governors of Connecticut, Maine, Maryland, Massachusetts, New York, Pennsylvania, Rhode Island, Vermont, and the Mayor of the District of Columbia are all signatories to a memorandum of understanding that is a commitment to work together to foster a self-sustaining market for zero-emission MDHD vehicles through collaboration and coordination. <https://ww2.arb.ca.gov/sites/default/files/2020-07/Multistate-Truck-ZEV-Governors-MOU-20200714.pdf>. The Department anticipates that some states whose Governors are signatories to the Memorandum of Understanding will incorporate California's ACT regulation by reference. See Notice of Proposed Rulemaking, 6 NYCRR 218, Emissions Standards for Motor Vehicles and Motor Vehicle Engines; <https://www.dec.ny.gov/regulations/26402.html> (State of New York's proposal to incorporate by reference California's ACT regulation); Proposed Rulemaking, Chapter 128, Advanced Clean Trucks Rule; <https://www.maine.gov/dep/rules/index.html>. Other states that are signatories

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may not adopt California's ACT regulation, but will still coordinate with the Department pursuant to the MOU. Moreover, as discussed more thoroughly in the Response to Comment 187, the adopted rules do not include a purchase mandate. Thus, business owners and fleet operators will not be compelled to purchase ZEVs, unless they meet their operational needs; evasive tactics, such as moving to another state, are unnecessary.

Finally, the Department acknowledges the concern that businesses may have some initial hesitation about purchasing MDHD ZEV technology due to higher vehicle and infrastructure costs. But, as noted in the notice of proposal, Economic Impact, the Department estimates that the lifetime cost of maintaining a ZEV will be lower than a comparable gas or diesel vehicle. See 53 N.J.R. at 597. And, as the Department noted in its Jobs Impact analysis, this rulemaking is anticipated to "have a small, net positive impact on job retention or creation in the State." 53 N.J.R. at 599.

72. COMMENT: 2045 is a reasonable target date for the broad deployment of ZEV commercial trucks, wherever feasible. However, a comprehensive and coordinated State and Federal strategy is required to develop and implement the widespread deployment of ZEV trucks. A critical first step in that deployment is the investment and development of the infrastructure necessary to recharge or refuel ZEV trucks, which will involve longer planning and installation timelines and significantly larger public investments than for passenger cars. Another critical step in the successful deployment of ZEV trucks will be the provision of incentive funding to offset that significantly higher price differential. If there are no Federal programs addressing these critical factors, there is a significant risk that New Jersey fleets will simply keep their older

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higher-emitting products longer or will buy out of State. The resulting adverse impacts on New Jersey's economy and environment could be severe. (27)

73. COMMENT: The rulemaking fails to recognize the financial barriers to electrification of fleets. Transitioning from diesel powered trucks to electric will require significant vehicle purchase incentives. A sustained incentive program is critical to ensuring early adopter purchases and stabilizing a transitioning market that needs to maintain cost parity with conventional alternatives in the near term. Rapid improvements in ZEV technology in the coming years are also likely to impact fleet residual values of used zero-emissions trucks and buses, as the technology lifecycle is compressed and newer technologies are deployed. Fleet customers must be assured that these products are not left technologically stranded to a point where the return on investment extends out beyond fleet target or useful life of the truck. Otherwise, truck fleets may decide to hold on to their older their trucks longer, delaying new vehicle purchases. (30)

RESPONSE TO COMMENTS 72 AND 73: The Department acknowledges various industries raised financial concerns, which pertain to ZEV infrastructure and the higher price differential based on initial cost. As discussed more fully in the Response to Comments 140 through 147, the Department and other State agencies are currently offering incentives to minimize the additional costs associated with both the initial purchase of MDHD ZEVs, as well as the necessary infrastructure. Federal programs addressing infrastructure and incentives would provide an optimal environment for ZEV deployment. To that end, the Department will monitor, participate, and coordinate with any Federal efforts to incentivize electric vehicles purchases and infrastructure in the MDHD sector and the incorporation by reference of

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California's ACT regulation will not serve as a barrier to participation in future Federal funding opportunities.

Though the Department recognizes that incentives and other funding options will significantly facilitate the transition to ZEV technology, it is also important to note that the Department has found, as set forth in the cost summary of the Department's Economic Impact analysis, that while "medium- and heavy-duty ZEVs have higher upfront capital costs for the vehicle and infrastructure investments, [the] lower operating costs over time result ... in lower overall costs for truck transportation." 53 N.J.R. at 597. Thus, the Department's adopted rules are anticipated to be cost-effective in the long-term, regardless of Federal incentives. And as discussed more thoroughly in the Response to Comments 190, 191, 192, 193, 194, 195, and 196, the Department does not anticipate changes in fleet turnover rates as a result of the adopted rules.

Other Low Carbon Technology Will Better Serve the State

74. COMMENT: The proposed rules allow only manufacturers of electric vehicles to participate in the credit/deficit program. This restriction omits a proven and affordable option to reduce greenhouse gas emissions through vehicles fueled by renewable natural gas (RNG). The Department should include vehicles that utilize RNG in its credit/deficit program. (14 and 78)

75. COMMENT: The proposed rules do not include low carbon and carbon negative vehicles, like vehicles fueled by RNG, as a compliance option. The Department should revise the rules to adopt the traditional definition of a NZEV rather than the restrictive definition that was included in California's ACT regulation. Under the California definition, NZEV is limited to electric hybrids. But low- to no-carbon fueled engines, including RNG, are included under the

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traditional definition of NZEV. Traditionally defined NZEVs are certified to achieve CARB's optional low NO_x standard of 0.02 g/bhp-hr, which represents a 90 percent reduction in NO_x emissions from the current Federal standards. These vehicles are available for wide-scale deployment now. Indeed, many leading fleets are adopting RNG vehicles. New Jersey can alter California's ACT regulation to improve its effectiveness by allowing greater flexibility, so long as those changes do not include provisions that are more burdensome. (3)

76. COMMENT: The Department should revise the proposed rules to allow near-zero natural gas vehicles powered by biofuels to qualify toward the obligations included in the program. New Jersey can alter California's ACT regulation to meet its needs, so long as those changes do not include provisions that are more burdensome. Allowing greater flexibility and increasing the opportunity for existing near-zero emission trucks would not be considered more burdensome and, therefore, is legal. (29)

RESPONSE TO COMMENTS 74, 75, AND 76: The Department's primary objective in promulgating the adopted rules is the reduction of emissions from the MDHD sector through acceleration of the sale of zero-emission MDHD vehicles in New Jersey. As set forth in the notice of proposal, California's ACT regulation requires an increasing percentage of future MDHD vehicle sales by certain manufacturers to be ZEVs. 53 N.J.R. 588(a). The percentage of new vehicle sales that must use ZEV technology will gradually increase, beginning with MY 2025 (in New Jersey) through 2035. For instance, the percentage of ZEV (or NZEV) credits that a manufacturer must obtain in MY 2025 to offset its deficits for new sales of Class 7-8 tractor vehicles and engines amounts to seven percent of its total sales. Accordingly, the remaining 93 percent of a manufacturer's new vehicle and engine sales in that model year could come from

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other technologies, including low-carbon technology, such as RNG, which is already being deployed at scale. Given the primary objective of the adopted rules, a revision to include other technologies is unwarranted.

Additionally, California has adopted a regulation, commonly referred to as the Low NO_x Omnibus rule, that would require conventionally fueled engines and vehicles to meet a lower NO_x emission threshold in order to be a CARB-certified engine. Such a rule would benefit low-to no-carbon fueled engines, including those fueled by RNG, that are already meeting the lower NO_x threshold. Though, at the time of this adoption, the Department has not proposed to incorporate by reference California's Low NO_x Omnibus rule, the Department held a meeting with stakeholders on September 10, 2020, to discuss that possibility.

<https://www.nj.gov/dep/njpact/materials.html#NJPACT-co2trucks20200910-am>.

77. COMMENT: The proposed rules do not include a provision allowing near-zero natural gas vehicles powered by biofuels to qualify as NZEVS, despite the fact that these vehicles will provide cleaner air. The Department should focus on replacing older, higher emitting vehicles with less-polluting vehicles that are available now. California's rule does not encourage the uptake of these lower-polluting vehicles that will deliver immediate relief and longer-lasting public health benefits. (29)

78. COMMENT: The light duty ZEV mandate that was first established in 1990 was largely ineffective at increasing ZEV sales. The heavy-duty section does not have another 30 years to wait to achieve so little. Renewable natural gas is available now. (29)

79. COMMENT: The Department should avoid adopting the California approach of focusing on electrified vehicle-centric mandates at the expense of commercially available low NO_x

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technologies that are being deployed to meet near-term air quality goals. Low NO_x technologies, coupled with renewable fuels, could deliver earlier and more cost-effective air quality and greenhouse gas reduction benefits than a ZEV-centric approach. Policies should be realistic in nature, and, above all, preserve affordability and consumer choice. Generally speaking, these goals can be best achieved through free markets, as opposed to market-distorting mandates, subsidies, or the imposition of unrealistic emissions or sales targets. (31)

80. COMMENT: Under California's ACT regulation, which New Jersey proposes to incorporate by reference, new natural gas ultra-low NO_x engines operating on RNG do not qualify as ZEVs or NZEVs. Yet, these engines, which are available today, produce fewer greenhouse gas emissions than diesel-powered vehicles. The average carbon intensity of bio-compressed natural gas sold in California in 2020 was negative, giving RNG the lowest carbon intensity of any in use motor fuel, including fully renewable electric wind or solar. The proposed rules rely on a sales mandate for vehicles that are largely not commercially available, affordable, or proven, and prevents new, ultra-low emission natural gas vehicles from qualifying under the proposed rules. The proposed approach likely will delay achieving more immediate and longer-lasting reductions in harmful pollutants. (29)

81. COMMENTS: Modern, natural-gas engines are designed to operate on traditional fossil natural gas or RNG that is stored on the vehicle as either compressed natural gas (CNG) or liquefied natural gas. These near-zero engines feature NO_x levels that are 90 percent below the EPA standard, particulate matter that are also 90 percent below the EPA standard, CO₂ equivalent 16 percent below the EPA standard. Moreover, when they are used with RNG, they achieve subzero carbon emissions. Modern natural gas engines offer near-zero-emissions and

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are also the most mature, proven, and least disruptive alternative power technology available today. On the other hand, MDHD electric vehicles are not ready for large scale adoption. (10)

82. COMMENT: California's ACT regulation does not include "near-zero" technology vehicles, such as those powered by CNG and emerging hydrogen technology. Natural gas vehicles are already in widespread operation in New Jersey today and produce lower carbon emissions than diesel vehicles. (63)

83. COMMENT: Renewable diesel fuel is available to immediately reduce greenhouse gas emissions in New Jersey, whereas other technologies may not be available for 15 to 20 years. The Department should look for additional options for Class 7 and 8 vehicles to bridge the gap between technology that is actually available today and what may be available in the future. Providing incentives to replace older model year vehicles with newer near-zero emission vehicles (that run on renewable diesel fuel) would provide the bridge. (94)

84. COMMENT: Since electric and other ZEVs are not feasible at this time, the Department should not adopt the proposed rules. Instead, the Department should encourage the use of lower carbon fuel technologies like RNG and CNG, which are readily available and affordable now, to reduce carbon and other emissions from MDHD vehicles. (12)

85. COMMENT: The proposed rules should incorporate alternative fuel (low-carbon intensity) vehicles because the fueling infrastructure for CNG vehicles is available in New Jersey right now; the infrastructure for electric vehicles is not available or easily deployed. (63)

RESPONSE TO COMMENTS 77 THROUGH 85: As set forth in the Response to Comments 74, 75, and 76, the Department's primary objective in promulgating the adopted rules is the acceleration of the use of MDHD ZEVs in New Jersey, which is an important initial step in the

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State's comprehensive strategy to reduce emissions from the transportation sector. Though the adopted rules will require an increasing percentage of future MDHD vehicle sales by certain manufacturers to be ZEVs, the remaining new vehicle and engine sales could come from other low-emission technologies. Accordingly, the rules will not obstruct fleets or businesses from purchasing near-zero vehicles using other technology that is already commercially available, particularly for those market segments in which CARB indicated that ZEV technology is not fully mature.

Notably, the 2019 EMP evaluated multiple energy plan scenarios and their costs, including some with higher and lower transportation electrification rates, as well as variations in the use of biofuels in transportation. See 2019 EMP, Appendix A Integrated Energy Plan: Scenario Results and Cost Estimates. Ultimately the 2019 EMP found that a variation with lower electrification rates and increased use of biofuels would be less costly in the near-term, but, overall, a more costly way to reach the State's emission reduction goals than several other scenarios focused on higher levels of vehicle electrification. See 2019 EMP, p. 278. For these reasons, the pursuit of electrification of the transportation sector is a long-term goal, but that does not preclude policies that promote low NO_x emission technology as an interim measure. Thus, the focus of this rulemaking is electrification of the MDHD sector over the long-term.

For a discussion of the readiness of electric vehicle charging infrastructure, please see the Response to Comments 131, 132, 133, 134, and 135. As the Department noted in that response, deficits under the adopted rules do not begin to accrue under the adopted rules until 2025, and sales percentage requirements ramp up gradually over time, allowing infrastructure installation capacity to increase gradually as the MDHD charging infrastructure market

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continues to mature and prices decrease. The Department and other State agencies have made resources available to offset the costs of MHDV charging infrastructure.

Industry has the capacity to adopt MDHD ZEVs on a large-scale in light of the existing product development and infrastructure needs. As noted in the Response to Comments 105, 106, 107, 108, and 109, CARB's market segment analysis evaluated the suitability of current ZEV technology across a wide variety of market segments, and this analysis informed the sales requirements of the adopted rules.

As for the use of newer technology to meet the rules' requirements, hydrogen fuel cell electric vehicles qualify as ZEVs under the adopted rule. As CARB noted in its initial statement of reasons, "ZEVs produce no exhaust emissions of any criteria pollutant under any and all possible operational modes and conditions. The most common ZEVs are battery-electric vehicles (BEVs) and fuel-cell electric vehicles (FCEVs) ... FCEVs use hydrogen stored on board to power a fuel cell in combination with a traction battery that produces electricity to power the electric motor(s)." CARB, Staff Report: Initial Statement of Reasons, October 22, 2019 (CARB ISOR), <https://ww2.arb.ca.gov/rulemaking/2019/advancedcleantrucks>, p. I-10.

86. COMMENT: All-electric trucking could be vulnerable to power outages in the event of a natural disaster, leading to delayed disaster recovery. Instead of proceeding with the proposed rules, the Department should find ways to bring alternatives like natural gas into the picture as an option, not a mandate. (4)

87. COMMENT: It is highly problematic to force the trucking industry to be reliant on electrical generation. Should the State suffer another major power outage, like the one New Jersey

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experienced after Superstorm Sandy, trucking fleets that provide food and product distribution, emergency vehicles, solid waste collection, construction vehicles, and public safety vehicles would be unavailable. Alternative fuels have the benefit of providing a fuel mix and allowing for transportation of goods to occur in the event of a major power outage. (12)

RESPONSE TO COMMENTS 86 AND 87: Resilience is an important factor in any discussion related to climate change. As noted in the notice of proposal Summary, multiple State agencies have been working to implement policies to mitigate climate change and strengthen resilience. One of the numerous efforts undertaken was the 2019 EMP, which included modeling that analyzed various approaches to reach the State's emission reduction goals while also "maintaining reliability, resiliency, flexibility, and security." See 2019 EMP, p. 286. As the State moves toward increased electrification in all sectors, modeling will need to be updated periodically to ensure the State is pursuing pathways to emission reductions that maintain the core requirements of resilience, reliability, flexibility, and security. This rulemaking, by itself, is not a threat to resilience or reliability because it does not require the MDHD sector to transition to an all-electric fleet. Rather, the adopted rules require a gradual increase in the percentage of new vehicle sales that must be ZEVs.

Operational concerns associated with power shutoffs are an issue for extended outages. CARB addressed concerns with power outages and noted that the concerns extend to all vehicle and fuel types. "This issue is highlighted in a 2019 NREL presentation – natural gas stations need electricity to run compressors to move the gas along pipelines and to compress gas to fuel CNG vehicles, and gasoline and diesel stations cannot pump fuel without electricity. ZEVs have their own trade-offs and benefits but are not the only fuel that faces resiliency issues. Fleets

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will make their own decisions on how and whether they will plan to have backup measures, such as on-site energy storage, backup generators, or have larger storage systems onboard the vehicle.” CARB, Final Statement of Reasons, March 15, 2021 (CARB FSOR),

<https://ww2.arb.ca.gov/rulemaking/2019/advancedcleantrucks>, p. 218. Like California’s ACT

regulation, the adopted rules do not require fleets to purchase ZEVs; consequently, the Department anticipates that only fleets that are comfortable with their resiliency situation would likely purchase ZEVs. Thus, appropriate resilience and reliability will be monitored and maintained by fleets at the operational level and by State agencies at the systemic level.

88. COMMENTS: If the proposed rules will not incorporate a compliance option for low-to-no-carbon fuel engines, the Department should focus on the adoption of a low-carbon fuel standard. (3)

89. COMMENT: The U.S. government considers biodiesel to be carbon-neutral. Therefore, the Department should consider incorporating biodiesel into the rules. The infrastructure for biodiesel is largely in place, making it more advantageous than the mandate for electric vehicles contained in the proposed rules. (20)

90. COMMENT: On a lifecycle basis, a truck running on renewable diesel can reduce greenhouse gas emissions more than a battery powered medium- or heavy-duty vehicle. Moreover, renewable diesel is a more cost-effective solution for reducing local emissions and improving local air quality. Yet the proposed rules do not allow various technologies to compete in the marketplace. (31)

91. COMMENT: California’s ACT regulation, which New Jersey proposes to incorporate by reference, establishes a technology mandate that ignores the important role that other

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technologies can play in reducing greenhouse gas emissions. The Department should pursue a more inclusive technology strategy that would accelerate emissions reductions, while also creating more cost-effective solutions. (36 and 66)

92. COMMENT: Rather than incorporating by reference California's ACT regulation, which limits the technological options for achieving greenhouse gas emission reduction, the Department would be in a better position to meet the State's aggressive emission reduction targets with a multi-technology approach. (29)

RESPONSE TO COMMENTS 88, 89, 90, 91, AND 92: As stated in the Response to Comments 60 through 71, the adoption of California's ACT regulation for the purpose of accelerating ZEV deployment in New Jersey is not an indication that the Department perceives no place for low-carbon fuel technology in the market. As noted in the Department's 80x50 Report, to reach the State's emission reduction goals, "[i]t will be necessary to support a combination of technologies—including electric batteries, hydrogen fuel and renewable biofuels—that best address the end use and purpose of medium- and heavy-duty vehicles." 80x50 Report, p. x. Indeed, "[r]enewable diesel or renewable natural gas can be considered as interim strategies until full electrification is possible." *Id.* at p. 21. Nonetheless, the primary purpose of this rulemaking is to accelerate ZEV deployment. Though standards for the low-to-no-carbon fuel engines and vehicles described by the commenters were not included or incorporated in these rules, the Department and other State agencies are free to implement other policies, rules, or strategies to incentivize other fuels that may play a role in reducing emissions in the short term.

93. COMMENT: A ZEV policy would have an adverse economic impact on America's agricultural industry, as demonstrated in the October 2020 study commissioned by the

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Agricultural Retailers Association. The Department should explore alternatives to reducing greenhouse gas emissions through the promotion of low-carbon renewable and other important domestic energy sources that can help improve the environment while promoting economic growth within the nation's agricultural industry. (34)

RESPONSE: See the Response to Comments 88, 89, 90, 91, and 92 as it pertains to the role low-carbon renewable fuels may have in achieving the State's emission reduction goals.

As the Department stated in the notice of proposal Agricultural Industry Impact, this rulemaking is anticipated to have a positive impact on the agricultural industry in New Jersey by reducing greenhouse gases that drive climate change. 53 N.J.R. at 600. The impact of the adopted rules on the agricultural industry in the United States as a whole is beyond the scope of this rulemaking. The Department's adopted rules, which are intended to accelerate the deployment of ZEV technology in the MDHD sector, will apply in New Jersey only – there is no national applicability. Although large-scale adoption of ZEV technology at a national level could have an impact on global commodity prices due to a decreased demand for biofuels, no specific connection to New Jersey's agricultural industry has been presented. New Jersey has no significant agricultural ethanol or bio-diesel production capacity that could be adversely impacted if the adopted rules decrease demand for those fuels.

(<https://www.eia.gov/petroleum/ethanolcapacity/> and <https://www.eia.gov/biofuels/biodiesel/production/table4.pdf>).

Crops, such as soybeans and corn, are produced in New Jersey for purposes other than ethanol or bio-diesel production. However, any decrease in demand for biofuels in MDHD vehicles in New Jersey would have an immeasurably small effect on global commodity prices

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and, as such, would not have a significant adverse effect on the national or State agricultural industries.

Zero-emission Technology

The Market is Ready: Demand

94. COMMENT: Adoption of California's ACT regulation is reasonable given the level of demand that can be observed in the marketplace. (43)

95. COMMENT: There is tremendous pent-up and growing demand for these trucks right now. A wide variety of private and public entities are applying for Volkswagen Settlement funding for MDHD ZEVs, and this demonstrates a high level of interest. There may be a shortage of MDHD ZEV without California's ACT regulation, but there is no danger of a surplus. (40)

96. COMMENT: As economic returns and other benefits become evident, demand for MDHD ZEVs is expected to swell, making it crucial that New Jersey ensure that sufficient quantities and types of ZEVs are available. (25)

97. COMMENT: MDHD fleets, such as FedEx and Walmart, have shown a clear desire to adopt ZEVs. But they need to know that there will be ample vehicles to purchase. The proposed rules will provide much needed policy certainty to market participants that may be hesitant to commit to ZEVs without a clear pathway to make the transition. (2)

98. COMMENT: Zero-emission trucks provide savings to fleets. Many trucks are already cost competitive on a total cost of ownership basis. Larger vehicles are expected to achieve parity by 2025, and heavy-duty long-haul vehicles are expected to achieve parity by 2030, even without incentives. (70)

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99. COMMENT: An electric truck could pay for itself in about three years through lower fuel and maintenance costs. (71)

100. COMMENT: Many zero-emission trucks and buses already have a lower total cost of ownership than their diesel equivalents, even without incentives. Continued advances in low and zero-emission vehicle technology are expected to make all zero-emission trucks and buses cost competitive by the end of the decade. (46)

101. COMMENT: Companies are investing in electrification because transitioning to EVs can generate cost savings over the life of a vehicle. (80)

102. COMMENT: California's ACT regulation will work. Zero-emission long haul trucks already have lower total cost of ownership than diesel over the vehicle's lifetime. By driving up demand for MDHD ZEVs and the corresponding infrastructure, the proposed rules will result in more innovation and lower future costs. (5 and 68)

103. COMMENT: The proposed rules will be effective in driving up demand for electric trucks, advancing infrastructure, and fostering innovation, and will lead to lower future costs. (32)

104. COMMENT: By adopting California's ACT regulation, New Jersey can effectively begin to transition MDHD vehicles to zero-emission technology before the implementation of a corresponding purchase mandate. Manufacturers have more than met their requirements under the California light-duty ZEV program, generating a surplus of credits to meet their ZEV requirements for light-duty vehicles. Thus, far from failing to meet the ZEV program requirements for light-duty vehicles, manufacturers have been overperforming even without a regulatory purchase mandate. (35 and 87)

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RESPONSE TO COMMENTS 94 THROUGH 104: The Department acknowledges the commenters' support of the rules. Based upon the analyses performed by CARB, the Department agrees that the adopted rule's requirements are economically and technologically feasible. As noted in the Response to Comments 122, 123, 124, 125, and 126, by setting a regulatory sales mandate, the Department is providing certainty to vehicle manufacturers, suppliers, and infrastructure manufacturers to make the long-term investments that will be crucial to large-scale deployment of ZEVs. Accordingly, the adopted rules are anticipated to encourage manufacturers to develop and validate new products that will keep pace with the increase in demand.

ZEVs are not Market Ready

105. COMMENT: New Jersey's proposed incorporation by reference of California's ACT regulation will require manufacturers to comply with the sales mandate in model year 2025, which means that manufactures could be forced to comply in 2024 due to their product launch schedules, forcing manufacturers to potentially deliver immature technology that is not fully validated or tested. Any difficulty with technology rollouts may result in customers who are hesitant to make a large capital investment in unproven technologies in the future. (30)

106. COMMENT: The Department has not considered the fact that the battery-powered trucks currently available are neither economically competitive nor practical for any routes requiring cargoes near the maximum load ratings, nor for mid-range or long-haul routes. Real world experience has shown battery electric vehicles to be inappropriate for some applications due to vehicle range, battery performance in different weather scenarios, and battery degradation due to fast charging. The limitations of the technology do not impact only vehicle performance. For

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example, long charging times may lead to idle drivers, another economic challenge businesses cannot afford. (31)

107. COMMENT: The proposed rules rely on regulatory standards set in California, which did not consider the diverse needs of market segments in New Jersey. Relying on California's standards may harm New Jersey's businesses and truck owners from a distribution, logistics, and interstate perspective. Moreover, the electric vehicle technology mandated by the standards is not mature. Manufacturers cannot comply with sales mandate if the product does not meet the vehicle owner's needs. (12 and 27)

108. COMMENT: If the proposed rules are adopted, they would be a great hardship to companies who have to buy buses and install charging stations. This cost would be reflected in the bidding process within the school districts. Many questions remain about range and charging for electric school buses, since very few are in operation. These questions will not be resolved by 2025. (39)

109. COMMENT: Many infrastructure projects take place far away from central corridors where public charging might be available. As a result, construction-related businesses will be hesitant to buy and use electric trucks, especially the heavy-duty, longer haul vehicles since recharging them mid-project would require route changes or the demobilization and remobilization of equipment traditionally left onsite for the duration of a project. (47)

RESPONSE TO COMMENTS 105, 106, 107, 108, AND 109: The Department recognizes that there are certain market segments that are not presently suitable for full electrification. However, the adopted rules provide the flexibility necessary to address this issue by allowing manufacturers to bank, purchase, or trade credits earned in the early, ready to electrify sectors to offset any

deficits they may incur as less advanced market segments mature. As CARB explained in its Final Statement of Reasons, its staff “worked closely with stakeholders to develop a market segment analysis that can be found in [Appendix E to the ISOR.]. This analysis assessed 87 market segments in the Class 2b-8 market and assessed their suitability for electrification based on payload issues, daily range, infrastructure access, and space considerations. The analysis found that while many segments present challenges, there are a large number of segments that are well suited for electrification across the medium- and heavy-duty truck market.” CARB FSOR, p. 108. CARB also noted that “the suitable market for ZEVs is expected to expand further as ZEV technology improves, access to infrastructure expands and ZEV weights decline.” *Ibid*.

Since the adopted rules do not require any individual fleet to purchase ZEVs, poorly suited market segments may wait until manufacturers develop ZEV technology that suits the needs of those fleets. See CARB FSOR, p. 122. In short, manufacturers will need to examine their market segments in New Jersey, identify which segments will be initially most suitable for ZEVs, and plan to develop future ZEVs that are suited to the more challenging market segments in later years. The framework of the adopted rules’ credit/deficit system will provide manufacturers with the flexibility to offer competitive products that fleets will want to purchase in the appropriate market segments initially, as well as the time to research, develop, test, and validate products in those market segments that are less mature.

110. COMMENT: A World Resources Institute study found that range was a critical limitation of e-buses for transit operators. Passenger heating and cooling loads and uncertain battery performance can further reduce effective range. (44)

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111. COMMENT: In a National Renewable Energy Laboratory (NREL) study evaluating natural gas and battery electric transit buses in service in California, natural gas buses in the study traveled farther, performed more work, and were more reliable than the battery-powered electric buses. Battery-powered electric buses are likely to travel fewer lifetime miles than most studies assume. Low per-vehicle mileage may necessitate increasing bus fleet sizes. Given the heavier payloads and more rigorous work schedule, these issues will only be magnified in the trucking sector. (3)

RESPONSE TO COMMENTS 110 AND 111: The Department recognizes that there are certain market segments that are not presently suitable for full electrification. As discussed more thoroughly in the Response to Comments 105, 106, 107, 108, and 109, the adopted rules were developed to provide manufacturers with the flexibility to offer competitive products that fleets will want to purchase in the appropriate market segments initially, and the time to research, develop, test, and validate products in those market segments that are less mature.

To the extent that there are concerns about the reliability of MDHD ZEVs, the adopted rules require that ZEVs meet the requirements of the Zero Emission Powertrain Certification regulation. Specifically, starting in model year 2024, California's ACT regulation "establishes minimum criteria for the quality and reliability of ZEVs, provides emissions warranty to the vehicle purchaser, ensures information regarding ZEVs and their powertrains are effectively and consistently communicated to purchasers, and accelerates progress towards greater vehicle reparability. CARB anticipates that ZEV technology will continue to rapidly improve thereby increasing reliability, and as the market matures, costs will continue to decrease." CARB FSOR, p. 291. Since New Jersey's incorporation by reference will not be implemented until model

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year 2025, all ZEVs sold in New Jersey will be required to meet the quality and reliability standards of CARB's zero-emission powertrain certification requirements.

The Market is Ready: Production

112. COMMENT: At least 70 electric truck and bus models are on the market today and manufacturers are expected to make many more new models available over the next decade.

(8)

113. COMMENT: Several major manufacturers have announced plans to make Class 8 ZEV trucks. Similarly, a number of major legacy and new automakers have unveiled plans to manufacture electric pick-up trucks, most of which will fall in the Class 2B to 3 range. Last year there were 95 models of zero-emission MDHD vehicle models in commercial production, and that number is set to increase to 169 models by the end of this year. Strong regulations that set a clear direction for industry, such as California's ACT regulation, accelerate the pace of innovation and ensure the industry actually makes these vehicles available to consumers. Supported by a strong regulatory framework, the broader industry could easily exceed the targets in the rule. (43)

114. COMMENT: Large manufacturers are already on board to electrify their vehicles. More than 130 MDHD ZEV models have already been certified under the California Hybrid and Zero Emission Truck and Bus Voucher Incentive Program. Many additional zero-emission MDHD vehicle models will be available by model year 2025. According to CalSTART's Zero Emission Vehicle Inventory, 53 companies, including major manufacturers like Daimler, Ford, and Volvo will have over 200 models of MDHD ZEV models available in the U.S. by 2023. Additionally, many major manufacturers have set specific goals to produce more electric vehicles in the near

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future. CalSTART anticipates that long-haul MDHD ZEV models will have ranges of over 600 miles by 2023, which should make long-haul electric vehicles feasible. Though batteries add weight to the truck, total payload losses are only about three to 19 percent. This should not be an issue for most shipments, given that average payloads are only 70 percent of maximum capacity. Moreover, New Jersey has been recognized as a high-potential state for truck electrification. (35 and 87)

115. COMMENT: Adoption of California's ACT regulation is a critical precondition for a well-functioning MDHD ZEV market. (42, 51, 59, 60, and 90)

116. COMMENT: Companies cannot fully address the risks or realize the value of tackling climate change without a robust market for clean transportation solutions and strong carbon reduction policies that send clear, long-term economic signals. (46)

117. COMMENT: A ZEV sales requirement for manufacturers is a proven policy mechanism to increase the availability of electric vehicles. Zero-emission vehicle technology is capable and ready for deployment in heavy-duty vehicles today. (69)

118. COMMENT: The technology is more than ready, and the intent of the proposed rules is to make that technology available. (69)

119. COMMENT: MDHD ZEV technologies are already here. Numerous global manufacturers are moving forward on electric trucks. (64)

120. COMMENT: Adoption of the ACT regulation in New Jersey will take advantage of MDHD market segments that are ready to electrify today, such as transit buses, local delivery vehicles, and refuse trucks. (21)

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121. COMMENT: Because California's ACT regulation is designed to be flexible, it will not present an undue burden on manufacturers. By increasing sale requirements over time, the ACT regulation gives manufacturers room to take advantage of technology and cost improvements, transfer credits between manufacturers and vehicle classes, and adjust the possible fluctuations in sales from year-to-year. (2)

RESPONSE TO COMMENTS 112 THROUGH 121: The Department acknowledges the commenters' support of the rules. As several commenters indicated, MDHD manufacturers have already announced plans to produce many new ZEV models. See the Response to Comments 122, 123, 124, 125, and 126 for discussion of how the establishment of a sales mandate provides regulatory certainty to vehicle manufacturers, suppliers, and infrastructure manufacturers to make the long-term investments that will be crucial to large-scale deployment of ZEVs. Further, the Department acknowledges the market analyses submitted by the commenters. For further discussion of model availability and the readiness of ZEV technology, please see the Response to Comments 105, 106, 107, 108, and 109.

Manufacturer Production cannot Meet the Sales Requirements

122. COMMENT: The technology does not currently exist at scale to allow for the conversion of the State's trucking fleets across all vehicle categories in the timeframes required. (12 and 33)

123. COMMENT: The Class 7 and 8 all-electric trucks presently available will not meet the operational requirements of fleets that need to travel greater distances than can be achieved from a single charge. The Department should look for other options for Class 7 and 8 trucks to bridge the gap between what is available now and what may be available in the future. (94)

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124. COMMENT: The proposed rules mandate the sale of Class 7 and 8 electric vehicles that are not presently viable, not in widespread commercial production, and for which there is no meaningful charging infrastructure. (3, 20, 29, 47, and 88)

125. COMMENT: Based on the available data, there will not be electric MDHD vehicles available in sufficient quantities to meet the sales mandate of the proposed rules. Even the most well-established electric vehicle manufacturers promising production of MDHD vehicle models have failed to deliver in a manner that meets the current demand and/or have failed to show profitability. The lack of available electric vehicles to meet the sales mandates within the proposed rules will only serve to increase costs to companies and consumers because the rules will force the market, which currently has insufficient capacity, to move too quickly. (88)

126. COMMENT: There are fleets that placed orders for heavy-duty vehicles with a manufacturer in 2018, that are still waiting for delivery in 2021. Based upon this history, the sales mandates included in the proposed rules exceed what is feasible and will only complicate the market. (3)

RESPONSE TO COMMENTS 122, 123, 124, 125, AND 126: ZEV models currently available in certain weight classes are more mature and/or more plentiful than those in other weight classes. See CARB FSOR. Appendix E: Zero-Emission Truck Market Assessment. Further, the Department acknowledges that fleets may be hesitant to purchase ZEVs at scale, unless they have a range of products available from established truck manufacturers. However, based upon the in-depth market segment analysis performed by CARB, which was discussed more thoroughly in the Response to Comments 105, 106, 107, 108, and 109, and the flexible (bank,

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purchase, or trade) framework of the ACT regulation, there will be sufficient quantities of ZEV models for manufacturers to meet the sales mandates of the adopted rules.

Compliance with the adopted rules will require significant changes to manufacturers' product offerings and scale of production. However, by setting a regulatory sales mandate, the Department is providing certainty to vehicle manufacturers, suppliers, and infrastructure manufacturers to make the long-term investments that will be crucial to large-scale deployment of ZEVs. Because the adopted rules' sales requirements do not take effect until model year 2025 and ramp up over time, manufacturers should have sufficient lead time to develop and validate new products, as well as give ZEV-suitable fleets time to test new products and make the necessary infrastructure preparations. See CARB FSOR, p 130.

With regard to the specific concerns about the availability of Class 7 and 8 ZEVs, CARB's initial assessment recognized that a portion of these vehicles are used primarily for long-haul trips, which raises concerns about battery life. See CARB FSOR, p. 208. However, this issue was accounted for in the assessment since CARB "assume[d] that electrification in the tractor segment will start with shorter haul applications such as city delivery and drayage first, and then expand to other sectors including regional trucking." *Ibid.* "The approved regulation includes flexibility for manufacturers to produce and sell ZEVs into the market segments they deem to be most suitable for the products they manufacture. Specifically, the regulation provides flexibility for manufacturers to shift sales between weight classes, to bank and trade credits ... and to meet part of their compliance obligation with near-zero-emission vehicle sales that have a minimum all-electric range. [...] In summary, the approved regulation will ensure that manufacturers develop competitive ZEV products at price points that will meet fleet

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needs.” CARB FSOR, p. 100. Accordingly, the adopted rules provide enough flexibility and time for manufacturers to meet their obligations.

127. COMMENT: Only 240 electric heavy-duty trucks were registered in the United States in 2020. If all states were to adopt California’s ACT regulation, 6,804 heavy-duty electric trucks would need to be sold nationwide in 2025. This represents a 28-fold increase in MDHD electric vehicles sales. While 6,800 trucks is not a massive number, it is a massive increase from 240 electric heavy-duty trucks sold today. Given electric truck sales history, this is an implausible increase. (88)

RESPONSE: As discussed more thoroughly in the Response to Comments 122, 123, 124, 125, and 126, the Department is confident that the sales volume that the adopted rules require is feasible. Additionally, it is highly unlikely that there would be a 28-fold increase in MDHD electric vehicles sales nationally, as not all states are currently eligible to adopt California’s ACT regulation.

Economies of Scale

128. COMMENT: The proposed rules require truck manufacturers to invest in battery electric truck production. When investment in battery electric truck production approaches the level of investment that has been made in diesel truck production, ZEV trucks will reach price parity with diesel trucks. The proposed rules will generate economies of scale that will drive down costs. (40)

129. COMMENT: The up-front price of vehicles is expected to continue to decline significantly as battery prices decline. Adopting California’s ACT regulation will only further that trend by

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increasing supply and improving economies of scale in a way that continues to depress prices.

(70)

130. COMMENT: The proposed rules will increase supply to meet demand, which will help achieve economies of scale and reduce upfront costs. (2)

RESPONSE TO COMMENTS 128, 129, AND 130: The Department acknowledges the commenters' support of the rules. Currently, MDHD ZEVs have higher up-front capital costs for the vehicle and infrastructure investments. While CARB's analysis did model decreasing incremental costs for MDHD ZEVs over time, CARB did not model lower ZEV component costs due to increased economies of scale resulting directly from the California Regulation. See CARB SRIA, p. 30. Accordingly, the adopted rules may indeed lead to incremental economies of scale, but the Department did not include these savings in its Economic Impact analysis.

ZEV Charging Infrastructure is not Ready to Serve New Jersey

131. COMMENT: The proposed rules should not be adopted because the charging infrastructure necessary to support the vehicles required to be sold under the mandate will take a great deal of time and money. (62)

132. COMMENT: Cost and lead times for construction of sufficient direct current (DC) fast charging and hydrogen fueling infrastructure remain critical technical obstacles to an effective build out. (30)

133. COMMENT: The proposed rules will likely fail to deliver the emission reductions forecast because they largely ignore technological and cost issues and assume that recharging infrastructure will be built at a record pace. (3)

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134. COMMENT: There is no data to support the argument that ZEVs will be less costly to operate since many of the vehicles do not exist yet. ZEVs will require additional monetary investments. Likewise, there are enormous challenges associated with the establishment of Statewide heavy-duty vehicle charging infrastructure, including the build out of charge points, mandatory grid upgrades, and the expansion of transmission capacity that must complement these new battery electric vehicle purchases once they are market ready and deployable. (29)

135. COMMENT: The proposed rules fail to address the challenges of developing and installing the requisite charging infrastructure to support zero-emission MDHD battery electric trucks. Charging stations must be located at fleet terminals and other depots where trucks are typically parked, and developing that infrastructure will be a complicated, expensive, and a multi-year undertaking. Moreover, fleets will need to expand the charging infrastructure over time if they plan to deploy additional battery-electric trucks. A viable MDHD ZEV initiative needs to have a primary near-term objective of incentivizing and assisting in the development of an appropriate charging infrastructure to enable the deployment of battery-electric commercial vehicles. Additionally, for fleet applications where fuel-cell electric vehicles may be the better option, hydrogen fueling stations will be needed. The proposed rules do not account for any of these items. (27)

RESPONSE TO COMMENTS 131, 132, 133, 134, AND 135: The Economic Impact analysis in the notice of proposal accounted for the challenges posed by the ZEV infrastructure costs associated with this rulemaking. Specifically, the Department's cost summary analysis found that while "medium- and heavy-duty ZEVs have higher upfront capital costs for the vehicle and infrastructure investments, [the] lower operating costs over time result ... in lower overall costs

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for truck transportation.” 53 N.J.R. at 597. In reaching this conclusion, the Department relied upon CARB’s analysis, which included assumptions pertaining to “the costs of chargers, site infrastructure upgrades, and charger maintenance in the analysis. [CARB] held multiple workgroup meetings to solicit feedback on the cost inputs and used the most up-to-date information wherever possible using real world experience and fleet data.” CARB FSOR, p. 211. As noted in the Response to Comment 136, the ZEV sales percentages were based on assumptions of return-to-base operations, not a broader network of public charging. The Department acknowledges that certain segments could accelerate ZEV technology more quickly if there were public charging networks available. But, as noted in the notice of proposal Summary, the adopted rules are one piece of a comprehensive approach to reduce emissions from the transportation sector. 53 N.J.R. at 589. Neither a single rulemaking nor a single State agency can address every aspect of the State’s needs as it works to electrify the transportation sector. Thus, the Department and other State agencies must continue to work collaboratively across economic sectors, levels of government, and through public private ventures to expand access to public MDHD charging and assist with the build-out of depot charging. Currently, the Board of Public Utilities (BPU) is soliciting feedback on a Medium- and Heavy-Duty Straw Proposal that proposes a specific role for electric distribution companies (EDCs) in the MDHD ZEV ecosystem. See New Jersey Electric Vehicle Infrastructure Ecosystem 2021 – Medium- and Heavy-Duty Straw Proposal (Straw Proposal), <https://www.nj.gov/bpu/pdf/publicnotice/Notice%20Medium%20Heavy%20Duty%20EV%20Straw%20Proposal.pdf>. The Straw Proposal will help inform all of the relevant agencies’ efforts as the BPU develops a pathway forward for the build-out of MDHD electric vehicle charging

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infrastructure in the State. Future policies concerning the build-out of infrastructure will be further informed by the information gathered pursuant to the Fleet Reporting Requirements, because it will provide the Department with data concerning the vehicle usage and fueling needs of New Jersey's fleets.

To the extent that there are concerns about the speed at which electric charging infrastructure can be built, the Department notes that deficits do not begin to accrue until 2025, and sales percentage requirements ramp up gradually over time, allowing infrastructure installation capacity to increase gradually. As described above, the Department and other State agencies are working collaboratively to increase charging infrastructure for MHDV fleets.

136. COMMENT: An all-electric truck would not be practical for medium- and long-haul truck routes that exceed the maximum charge capability since there is no heavy-duty truck charging infrastructure within the State or along the interstate corridors. Thus, without significant vehicle and infrastructure incentives, the costs associated with the proposed rules would be insurmountable. (94)

RESPONSE: The Department acknowledges that EV charging capacity does not yet exist to serve those MDHD vehicles that have high daily range requirements or cannot return to base to recharge at night. However, widespread access to public fast charging for MHDV will not be necessary for compliance with the adopted rules. As discussed in the Responses to Comments 105, 106, 107, 108, and 109, CARB's market assessment accounted for the suitability of 87 market segments, based upon multiple factors, including daily range and charging requirements. Using this assessment as a guide, CARB established sales percentages at levels that would not necessitate the availability of widespread fast charging for MHDV. See CARB

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FSOR, p. 124. Specifically, “[t]he ZEV sales percentage targets were based on the assumptions of return-to-base operations where infrastructure would be installed by the fleet.” *Ibid.* Thus, even if public EV charging capacity is insufficient to serve the long-haul market segment today, manufacturers are still anticipated to be able to meet the sales mandates through the flexible (bank, purchase, or trade) framework of the adopted rules.

Sales Mandates

A Sales Mandate Can Work

137. COMMENT: Fears of excessive MDHD ZEV pre-buy/no-buy are unwarranted, and provide no reason for the Department to withhold, or delay, adoption of California’s ACT regulation. As CARB noted, fleets, not manufacturers, decide when to purchase vehicles and this regulation would not encourage them to delay their purchases. Pre-buy situations are unlikely due to the proposed rules, but even assuming they do occur, pre-buy would weigh in favor of the Department moving swiftly to adopt California’s ACT regulation, and not the opposite. Pre-buy could theoretically dampen some of the beneficial effects of the MDHD ZEV sales mandate by slightly shifting vehicle purchases to the pre-model year 2025 diesel status quo, but a failure to adopt California’s ACT regulation at all would result in a diesel status quo in perpetuity. Meanwhile, delaying the ACT regulation implementation to model year 2026 would essentially create an additional 12 months of the “pre-buy” diesel status quo. Therefore, even assuming pre-buy is an unavoidable phenomenon, which it is not, the Department should rip the band-aid off and implement the ACT Regulation as soon as it can so that the New Jersey MHDV market swiftly overcomes any potential, short-term weakening of the ACT Regulation’s benefits from pre-buy. (35 and 87)

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138. COMMENT: Adoption of California's ACT regulation is unlikely to lead to pre-buying of dirty, inefficient vehicles in advance of implementation, due to the significant benefits of zero-emission and more efficient vehicles. Pre-buying in response to past criteria pollutant standards was short-lived and small relative to what was estimated – indicating that fears of pre-buying may not come to fruition. (70)

RESPONSE TO COMMENTS 137 AND 138: The adopted rules do not include a purchase mandate and are unlikely to cause substantial numbers of pre-buys by MDHD fleets. Thus, fleets can choose when, or whether, to purchase ZEVs and are not compelled to engage in tactics, such as pre-buys (purchasing non-ZEVs before the adopted emission standards are implemented), holding on to older vehicles longer, or purchasing non-ZEV vehicles out-of-State. In turn, and as a result of the sales mandate in the adopted rules, vehicle manufacturers will have a financial interest in prioritizing production of electric vehicle models that support the most cost effective and operationally suitable cases. See CARB FSOR, p. 100.

A Sales Mandate, Without More, Will Not Work

139. COMMENT: While the proposed rules mandate the sales of ZEVs, they do not account for the entire surrounding ecosystem associated with the deployment of the technology and provide no guarantee that these vehicles will be purchased. (1, 18, 98, and 105)

RESPONSE: The Department agrees with the concept of using both a manufacturing sales mandate and a fleet purchase requirement to advance the ZEV market. The Department met with stakeholders on September 10, 2020, and indicated that the Department was considering the possibility of incorporating by reference California's ACT regulation and a parallel regulation that would require fleet owners to purchase ZEVs in an effort to accelerate the transition to ZEV

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technology. See <https://www.nj.gov/dep/njpact/materials.html#NJPACT-co2trucks20200910-am>. To date, California has not proposed the fleet purchase regulation. However, the Department continues to monitor CARB's development of its fleet purchase rules, and will consider comparable rules in the future.

While the Department acknowledges the potential value of a corresponding fleet purchase requirement, the absence of such a regulation is not fatal to the success of a sales mandate. As CARB noted in its initial statement of reasons, California's ACT regulation provides a strong market signal in favor of the accelerated deployment of zero-emission technology. See CARB ISOR, p. III-8. Therefore, a sales mandate alone can provide the certainty manufacturers need to pursue ZEV technology as a long-term business strategy.

140. COMMENT: The proposed rules require manufacturers to sell MDHD ZEVs, but there is no mandate for anyone to purchase those vehicles. Due to the significantly higher costs of purchasing ZEV trucks and installing charging infrastructure, businesses will be hesitant to buy and use trucks, especially if they do not meet a business's operational needs. The Department's rulemaking is too costly to implement as it fails to consider the significant financial incentives needed to make MDHD ZEVs a viable investment for a trucking business. Therefore, businesses will not purchase the ZEVs that manufacturers are mandated to sell. (12 and 33)

141. COMMENT: The proposed rules fail to provide the needed funding for the build-out of the necessary recharging/refueling infrastructure or ZEV purchase incentives. (105)

142. COMMENT: The proposed rules function as a sales mandate without any guarantee that the vehicles will be purchased or providing the necessary funding for the build-out of the

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required recharging/refueling infrastructure or vehicle purchase incentives. (49, 75, 76, 82, 93, 95, and 99)

143. COMMENT: Truck customers will not purchase new California vehicles until the vehicles' costs are more in line with the cost of otherwise available diesel trucks and without first being assured that the necessary refueling/recharging infrastructure is in place. (1)

144. COMMENT: Not too long ago, diesel truck and diesel engine manufacturers invested billions of dollars to meet new, more stringent diesel emission standards. The proposed new rules now require manufacturers to sell ZEVs and ultra-low emission products, but they have no component to incentivize consumers or the infrastructure growth necessary to ensure these vehicles are purchased and driven in New Jersey. The proposed rules will result in skyrocketing prices for many MDHD vehicles and disincentivize those that purchase commercial vehicles from buying ZEVs because they invest in vehicles to earn a profit. New truck dealers in New Jersey and throughout the country are currently in a terrible situation due to supply chain issues and shortages caused by Covid-19 resulting in very few trucks to sell. Introducing new rules that would make the future more difficult for the trucking industry is not the answer. (72)

145. COMMENT: Unilateral ZEV sales mandates and nothing more, is not the regulatory platform on which New Jersey (or, as argued to CARB, California) should build its program to accelerate the deployment of MD and HD ZEVs. The core components of an effective MDHD ZEV program include significant public investments in ZEV infrastructure build-out and in ZEV-purchase incentives. The proposed rules do not address, or provide for, the comprehensive and robust charging and refueling infrastructure that will be needed at fleet facilities to operate the mandated ZEVs, the build-out of which will be expensive, complicated, and time-consuming.

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Likewise, the rulemaking does not include incentives that must be sufficient to offset all of the ZEV truck life-cycle costs that will exceed current commercial vehicle costs. (27)

146. COMMENT: Purchasing ZEV or NZEV MD and HD trucks is likely to be very expensive. Larger, national companies with large multistate fleets can take advantage of economies of scale, which allow for the gradual replacement of their fleets. However, smaller businesses with smaller truck fleets are critical to the economy in New Jersey. These are also the same businesses that struggled, and continue to struggle, as a result of the pandemic. Now is not the time for their costs to increase. Additionally, the proposed rules do not deal with key issues relating to the conversion to electric vehicles, namely developing the charging infrastructure and providing incentives for the purchase of ZEV or NZEV MD HD vehicles. In order to purchase electric vehicles, businesses will have to install charging infrastructure geared towards MDHD trucks in their own facilities or depots, which will be challenging, time consuming, and expensive. (22)

147. COMMENT: Without significant incentives for truck purchases, infrastructure, and electricity, the costs of transitioning to ZEVs for the trucking industry would be insurmountable. Electric Class 7/8 trucks and charging stations are four to five times the cost of an equivalent diesel truck and with a loss of payload of approximately 2,000 pounds for batteries. Per the proposed rulemaking, the Department is incentivizing the purchase of MDHD ZEVs sold in New Jersey between 2021 and 2024 by providing grants to the ultimate purchasers of MDHD ZEVs from the Volkswagen Mitigation Trust Fund and auction proceeds from the Regional Greenhouse Gas Initiative. But what incentives will be offered after 2024? Will New Jersey utility companies provide the type of assistance they have in California? (94)

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RESPONSE TO COMMENTS 140 THROUGH 147: As discussed more thoroughly in the Response to Comment 139, the Department agrees conceptually with a purchase mandate and continues to consider that possibility, but a purchase mandate is not necessary for the success of the adopted rules. Additionally, the Department analyzed the implications of New Jersey's incorporation by reference of California's ACT regulation and determined that this rulemaking is a necessary component of a comprehensive approach to reduce emissions of greenhouse gases and local pollutants from the transportation sector.

Publicly accessible EV charging does not yet exist to serve certain MDHD vehicle segments that cannot return to base to recharge at night. However, as discussed in the Response to Comments 105, 106, 107, 108, and 109, access to public fast charging for MHDV will not be necessary for compliance with the adopted rules. Still, supporting ZEV adoption and the build-out of the infrastructure for ZEVs will be important to the successful expansion of the ZEV market that does not charge on a return-to-base schedule. Thus, the Department and other State agencies are coordinating their efforts to ensure policies are in place to facilitate the transition to ZEVs. For example, the EDA has implemented the NJZIP program to provide substantial vehicle purchase incentives for MDHD vehicles Class 2b – 6 in the greater Trenton, Newark, and New Brunswick areas. Meanwhile, the Department is offering Statewide vehicle purchase incentives for Class 2b-8, as well as charging infrastructure incentives, based upon the knowledge gained during distribution of other grant funds, like those obtained through the Volks Wagon settlement. Over \$100 million has been awarded thus far for MHDV electrification. The State also exempts electric MDHD ZEVs from sales tax, which provides a further reduction of the upfront purchase price. The BPU recently released its Straw Proposal

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for public comment, which will help inform all of the relevant agencies' efforts as the BPU develops a pathway forward for the build-out of MDHD electric vehicle charging infrastructure in the State. See

<https://www.nj.gov/bpu/pdf/publicnotice/Notice%20Medium%20Heavy%20Duty%20EV%20Straw%20Proposal.pdf>.

148. COMMENT: This rule proposal is a mandate for manufacturers to sell heavy-duty, ZEVs with no corresponding mandate that the vehicles be purchased. Instead of fleet turnover, this proposed rule will most likely put the last of New Jersey's heavy-duty engine and truck manufacturers out of business. (47)

RESPONSE: As discussed more thoroughly in the Response to Comment 139, the Department agrees conceptually with a purchase mandate and continues to consider that possibility.

However, with or without a purchase mandate, the Department does not foresee that the adopted rules will put New Jersey's heavy-duty engine and truck manufactures out of business.

As noted in the notice of proposal Summary, California's ACT regulation, as incorporated by reference, applies only to manufacturers whose annual sales exceed 500 MDHD vehicles. See 53 N.J.R. at 590. In short, the adopted rules target only the largest manufacturers. More importantly, the location of a manufacturer's business does not factor into an assessment of compliance because a manufacturer's deficits and credits accrue based on the location of the vehicle's registration by the ultimate purchaser, not the location of the sale. Thus, there will be no disproportionate impact on any New Jersey-based manufacturers.

149. COMMENT: Adoption of the proposed rules will likely fail to deliver the desired results.

The proposed implementation of a sales mandate without a fleet adoption mandate ignores

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basic market principles. Government cannot simply increase demand by placing a mandate on the supply side of the market. Demand is not dictated by supply. Adoption rates of light duty electric vehicles have slowly, but steadily, increased over the last decade, to about two percent of nationwide sales due in part to Federal incentives, and a little over four percent in California due to additional large-scale State incentives. Other factors include technological advancements and cost reductions. The proposed rules largely ignore these factors and are instead based on a bet that technology will advance at a pace that exceeds the electrification of the light duty sector, that the cost of battery metals decreases, even though the prices of metals are currently trending higher, and that recharging infrastructure is built at a record pace along with major grid upgrades. California proceeded down this same failed path in 1990 when it created a mandate for the sale of light-duty electric vehicles. (3)

150. COMMENT: California has attempted to mandate light-duty vehicle electrification for many years, but its approach has been met with consistent delays, waivers, and only minimal success, despite the state spending hundreds of millions of dollars across multiple programs and agencies to support widespread ZEV market adoption. New Jersey enacted its Clean Car Program in 2004, adopting the California Low Emission Vehicle (LEV) program to reduce criteria pollutant emissions and greenhouse gases emitted by light-duty vehicles. Some 16 years later, less than three percent of total light-duty vehicle sales in New Jersey in 2020 were ZEV-qualifying technology. (29)

RESPONSE TO COMMENTS 149 AND 150: As discussed more thoroughly in the Response to Comment 139, the Department conceptually agrees with a purchase mandate, but a purchase mandate is not necessary for the success of the adopted rules. The Department acknowledges

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that businesses may have some initial hesitation to purchase ZEV technology due to higher upfront costs. However, as noted in the notice of proposal Economic Impact, the Department estimates that the lifetime cost of maintaining a ZEV will be lower than a comparable gas or diesel vehicle. See 53 N.J.R. at 597-598.

As CARB noted in its initial statement of reasons, “[t]he Proposed ACT Regulation is part of a holistic approach to transform the transportation sector to the cleanest possible technologies. It is a technology forcing measure to accelerate the deployment of zero-emission trucks and buses everywhere feasible. The Proposed ACT Regulation also provides a strong market signal for zero emission technology deployment and would foster a self-sustaining zero-emission truck market through increasing sales of medium and heavy-duty zero-emission trucks and buses.” CARB ISOR, p. III-8. Therefore, the Department anticipates that a sales mandate, by itself, will provide certainty to vehicle manufacturers, suppliers, and infrastructure manufacturers to make the long-term investments that will be crucial to large-scale deployment of ZEVs.

In California purchase mandates for light-duty vehicles provided the necessary regulatory and market stability that encouraged manufacturers to make and sell ZEVs in the early market. See Comment submitted by Coalition of Health Ports, citing CARB, Draft: Assessment of Carb’s Zero-Emission Vehicle Programs Per Senate Bill 498 (Dec. 17, 2019), <https://ww2.arb.ca.gov/sites/default/files/2019-12/SB%20498%20Report%20Draft%20121719.pdf>; CARB, 2019 Zero Emission Vehicle Credits at 3, https://ww2.arb.ca.gov/sites/default/files/2020-10/2019_zev_credit_annual_disclosure.pdf “Through model year 2019, 625,000 ZEVs were sold in California under this program.

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“Manufacturers have more than met their requirements under the ZEV program, generating a surplus of credits to meet their ZEV requirements ... [M]anufacturers have actually been overperforming without a regulatory purchase mandate.” *Ibid.* Moreover, there is some indication that manufacturers are able to “affirmatively shape [consumer demand] through vehicle availability, marketing, purchase incentives, pricing, and other factors within their control.” See Comment submitted by Coalition of Health Ports, citing Letter from Arthur N. Marin, Exec. Dir., NESCAUM to Elaine Chao, Sec’y, U.S. Dep’t of Transportation at 10 & exhibits 2 and 3 (Oct. 18, 2018). Hence there are a number of indicators that a sales mandate can drive market forces.

Similarly, New Jersey’s Zero Emission Vehicle Program, which has been in effect for 12 years, has caused a steady increase in the number of ZEVs registered in the State. In the last three years alone the number of ZEV registrations has doubled. In addition, the Charge Up New Jersey incentive program (chargeup.njcleanenergy.com) resulted in the purchase or order of 9,000 new EVs since 2020. Thus, the proper combination of regulations, policies, and incentives will drive sales; the lack of a purchase mandate is not fatal to an effort to push sales.

The Department acknowledges that the success of the adopted rules will depend on future conditions. Projections about future costs (that is, batteries, metals) and behavior (that is, the pace of infrastructure) are, by definition, a forecast of the impacts of the rules based upon the information currently available. For example, New Jersey recognizes that the build-out of the infrastructure for ZEVs is important to the success of an expanding ZEV market. However, as discussed more thoroughly in the Response to Comments 140 THROUGH 147, the EV charging infrastructure necessary for the implementation of the adopted rules was

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accounted for in the Department's Economic Impact analysis. 53 N.J.R. at 597-98. Currently, there are supply chain issues related to metals needed for batteries. However, the Federal government is working in coordination with the international community and private industry to mitigate these issues. For more information on Federal action on this issue please refer to President Biden's signed Executive Order 14017, which directed the Federal Government to develop a strategic process to address vulnerabilities and opportunities in the supply chains of four key products, including advanced batteries used in electric vehicles. Source:

<https://www.energy.gov/articles/fact-sheet-biden-harris-administration-100-day-battery-supply-chain-review>.

151. COMMENT: The Department should not force industry to invest in transitioning to battery-powered vehicles. This is an expense that is covered by New Jersey residents and which will either force startup companies out of business or out-of-State. The Department should encourage a transition and provide options. (4)

152. COMMENT: The regulatory approach in the proposed rules includes a credit and deficit system that will not work in light of the insufficient availability of electric trucks. Instead, New Jersey should promote technology development, as well as facilitate demonstration projects and invest in promising technologies. (88)

153. COMMENT: The proposed rules are wrong and unfair because they rely on mandates and other coercive governmental acts. To reduce climate pollution from transportation, the State should use incentives and grant funding to lower the up-front costs. A growing number of fuel retailers are interested in providing charging services, but are reluctant to invest given the lack of existing customer base. (47 and 79)

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154. COMMENT: Rather than rushing to adopt California's ACT regulation, the Department should work with all stakeholders to incentivize the market for MDHD ZEVs, to the same extent as it has done for light-duty ZEVs through the Charge Up New Jersey Program. (72)

155. COMMENT: The credit/deficit program in the proposed rules is an ill-directed approach because New Jersey has few manufacturers of vehicles over 8,500 pounds gross vehicle weight rating (GVWR). The Department should pursue non-regulatory actions, such as: (1) continuing to apply for Federal DERA State Clean Diesel Grant Programs to replace older diesel vehicles; (2) creating tax credit incentives for New Jersey construction companies to invest in clean diesel engines; and (3) tracking the progress on EV technology as it becomes available. The State should consider offering State tax incentives for companies to upgrade their equipment voluntarily. (47)

RESPONSE TO COMMENTS 151, 152, 153, 154, AND 155: "The ACT regulation is needed to drive manufacturers to develop new ZEV products and generate SIP-creditable emissions reductions beyond what is feasible through incentive programs alone. By achieving larger economies of scale, the ACT Regulation will help make ZEV technology more viable across sectors and fleets." CARB FSOR, p. 167.

As discussed more thoroughly in the Response to Comments 122, 123, 124, 125, and 126, the sales mandates in California's ACT regulation were chosen after CARB conducted a market segment analysis to assess the feasibility of ZEV technology. See CARB FSOR, p. 178. Based upon CARB's market segment analysis, the Department is confident that manufacturers will have sufficient model availability to meet the sales mandates of the adopted rules. Although the adopted rules are intended to accelerate the deployment of MDHD ZEVs through

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a sales mandate, nothing in the adopted rules prevents the Department or other branches of State government from pursuing complementary strategies, such as demonstration projects or investment in promising technologies. Thus, even as the Department continues to work with stakeholders on funding strategies and expansions of incentive programs, the goal of the adopted rules is to spur manufacturers and other market participants to achieve greater deployment of ZEV technology than incentives alone could accomplish.

As discussed in the Response to Comment 148, California's ACT regulation, as incorporated by reference, will only apply to manufacturers whose annual sales exceed 500 MDHD vehicles. See 53 N.J.R. at 590. So the mandates of California's ACT regulation will apply to a manufacturer if it meets the sales volume threshold and sells a covered vehicle to an ultimate purchaser in New Jersey. Since the adopted rules target only the largest manufacturers, and do not affect startup companies. In fact, companies that do not meet the 500 annual MDHD vehicle sales threshold have the option of opting into the program in order to generate credits, while avoiding the generation of deficits. See 53 N.J.R. at 601. This would allow smaller, start-up companies to generate credits they may then sell to larger companies as another source of income. See CARB ISOR, p. ES-3, III-8. Additionally, because the rules apply to sales in New Jersey, regardless of the manufacturer's location, manufacturers located within New Jersey will not be disproportionately affected by the rules.

The Department recognizes that incentives and other funding options will facilitate the transition to ZEV technology; however, the Department's Economic Impact analysis in the notice of proposal stated that while "medium- and heavy-duty ZEVs have higher upfront capital costs for the vehicle and infrastructure investments, [the] lower operating costs over time

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result ... in lower overall costs for truck transportation.” 53 N.J.R. at 597. Thus, the adopted rules are anticipated to be cost-effective in the long-term regardless of additional incentives.

For more information on the efforts of the Department and other State agencies to ensure policies and programs are in place to facilitate the transition to ZEVs through non-regulatory means, such as incentives, see the Response to Comments 140 through 147.

156. COMMENT: If the Department’s policy objective is to eliminate carbon emissions, it should propose rules that mandate the end-point. Unfortunately, the proposed rules mandate electrification and will put many small businesses in the fueling industry out of business without affording them the opportunity to comply with the policy objective of net zero carbon from the transportation sector. (20)

RESPONSE: Pursuant to the GWRA, New Jersey must reduce greenhouse gas emissions to 80 percent less than the 2006 level of Statewide greenhouse gas emissions by 2050 (80x50 goal). 53 N.J.R. at 589. As noted in the notice of proposal Summary, reaching the 80x50 goal will require substantial reductions in greenhouse gas emissions from all sectors. *Ibid.* This means that the Department and other State agencies must continue to work collaboratively over time and across economic sectors, levels of government, and through public private ventures to implement the policies that will build upon one another as the State methodically advances to meet the 80x50 goal over the next few decades. *Ibid.* Mandating an emission reduction end-point from a single sector would be tantamount to ignoring the complex interplay among variables, such as electric generation supply, demand, costs, and emerging technology. *Ibid.* The adopted rules will provide certainty to vehicle manufacturers, suppliers, and infrastructure manufacturers to make the long-term investments that will be crucial to large-scale

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deployment of ZEVs, which will allow the petroleum fuel industry to transition over time alongside the MDHD OEMs and dealers.

157. COMMENT: The proposed rules are overly burdened with process and are shortsighted when they should be focused on the end result. For example, in summarizing 13 CCR 1963.3, the Department wrote that credits must be retired in order of their credit type and weight class group. If a manufacturer sells one heavy duty Class 8 diesel truck and a comparable number of ZEV medium duty trucks that equitably offset the emissions, it appears that the manufacturer cannot retire the deficit of the heavy-duty Class 8 diesel truck with the medium duty ZEV sales. If the emissions reductions are the same and the only difference is the number of vehicles needed to achieve the same offset, why should it matter what class they come from? If the reason that the Department cannot amend this provision is the adoption of CARB regulations by reference must be all or nothing, then it is all the more reason to scrap the rules and start over. (20)

RESPONSE: CARB explained the importance of the order of the retirement of credits for Class 8 tractors in its initial statement of reasons: "This subsection is necessary for three reasons. First, it ensures tractor credits satisfy a tractor deficit before they can be used to offset other deficits. This is to ensure that tractors are manufactured to support the goal of transitioning drayage trucks to zero emissions by 2035 and in beginning the transition to ZEVs from tractors that operate locally or regionally. Second, using credits that expire first allows flexibility for manufacturers to bank early action credits while preventing, to the extent possible, credits from expiring due to age. Last, because NZEV credits have a cap, the NZEV credits would be used before ZEV credit to allow the more flexible ZEV credits to remain in a manufacturer's

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account to be used when needed and continues to ensure that ZEVs must still be manufactured to meet the goals for maximizing the use of ZEVs where feasible.” CARB ISOR, pp. IV-17 to 18.

The order of credits in an effort to encourage the production of tractors, to promote flexibility, and to ensure credits are used before they expire. Before finalizing its ACT regulation, and in response to comments it received, California determined it was necessary to provide greater flexibility for manufacturers of Class 7 and 8 tractors. See CARB FSOR, pp. 119-120. Thus, the regulation allows manufacturers to use a limited number of non-tractor credits to meet their tractor requirements in an effort to increase flexibility while maintaining the push for the development and production of ZEV tractors. *Ibid.* Given the rationale for the procedures in California’s regulation, the Department disagrees with the contention that the rules are overburdened with process.

Implementation Impacts

Positive Impact Forecasts

158. COMMENT: A recent study by Gabel and Associates projected larger CO₂ reductions than identified in the proposed rules for medium-and heavy-duty vehicles. The study projects that the proposed rules will result in a significant increase in electrification of the MDHD vehicle segment with an associated decrease in both fossil fuel use and air emissions. Further, the study estimates that 17.7 percent of the MDHD vehicle population will be electrified by 2035 in response to the proposed rules. Thus, the rulemaking should be recognized as a likely lower bound of the CO₂ emission reductions possible. The real-world CO₂ reduction of the proposed rules may be higher. (97)

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159. COMMENT: A study entitled, “Full Market Vehicle Electrification in New Jersey” concluded the net benefits of electrifying the State's transportation sector exceeded the costs by up to a factor of four. The study also quantifies a dramatic improvement in air quality in urban areas and along travel corridors and around ports. Adoption of California’s ACT regulation in New Jersey will take advantage of the MDHD market segments that are ready to electrify today and will address the air quality issues that disproportionately affect the overburdened communities in the State. (21)

160. COMMENT: By adopting California’s ACT regulation, New Jersey will become the first State, after California, to push forward a regulatory mandate to electrify diesel trucks that spew toxins into our communities. Estimates show that once the ACT regulation goes into effect, it can help reduce carbon emissions by 2.6 million metric tons through 2040. (73)

161. COMMENT: The benefits of zero emission transportation are clear, and the transition in the MDHD sector is vital to improving and protecting health. The American Lung Association’s 2020 Road to Clean Air report estimates that the widespread transition to ZEVs (including MDHD trucks included in the ACT program) could generate an annual public health benefit of approximately \$2 billion in New Jersey. Across the greater New York City metropolitan area, the public health benefits of such a transition could reach over \$5 billion annually. (83)

162. COMMENT: The Department estimates emissions reductions of California’s ACT regulation, once implemented in New Jersey, in 2040 to be 1,300 tons of NO_x per year and 40 tons per year of PM_{2.5}. Using the EPA’s CO-Benefits Risk Assessment (COBRA) tool (a screening tool that estimates the air quality and health benefits of different emissions scenarios), the ACT program’s projected emission reductions in New Jersey could save anywhere from \$287.5

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million to \$648.4 million per year by 2040, and could include health impacts that result in 3,500 fewer work loss days and more than 672,553 avoided cases of upper respiratory symptoms.

(37)

163. COMMENT: From a medical standpoint, it is critical that New Jersey address pollution from MDHD trucks. About 16 percent of local lung cancers are attributable to particulate matter less than 2.5 microns. More than 600,000 adults and 167,000 children in the State have asthma, with asthma hospitalization rates highest in Cumberland, Camden, and Essex County. About one in every four children in Newark have asthma, which is a rate about three times higher than the national average. Those children are hospitalized for asthma at 30 times the national rate. In 2019, two children in Newark died from acute exacerbations of chronic asthma. Communities of color and low-income communities are most affected by truck pollution. Asian American, African American, and Latino residents across the country are exposed to 34, 24, and 23 percent more PM_{2.5}, respectively, from cars, trucks and buses than the national average. The proposed rules are feasible, economical, and represent a timely means of achieving necessary reductions in air pollution and improving public health, especially for the most vulnerable residents. (15)

164. COMMENT: Adopting California's ACT regulation will result in significant health benefits for New Jersey residents. With polluted air comes higher rates of asthma and other severe respiratory diseases, as well as a greater risk of hospitalization, lost work opportunities, and premature death. Preliminary analysis shows that by adopting the ACT regulation New Jersey would prevent \$2.6 billion in public health costs from reduced tailpipe emissions. Further, investing in clean transportation and ZEV infrastructure will promote in-State job growth and

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produce good-paying jobs. Clean energy jobs in New Jersey pay 11 percent higher than the State's median wage. Adoption of California's ACT regulation will send a market signal, encouraging public-private partnerships to build a network of charging infrastructure that will create jobs across the State. Additional local business and local job opportunities would also be created by adding renewable energy to the grid, advancements in battery storage capabilities, and grid modernization. Under the proposed rules, New Jersey fleet operators would net an annual savings of \$394 million from reduced fuel and maintenance costs, and a single zero-emission truck or bus would save an average of \$36,000 over its lifetime. (8)

165. COMMENT: MDHD ZEVs are already cost effective. A recent Lawrence Berkeley National Laboratory study used the current global average battery price of \$135.00 per kilowatt-hour to find that, when compared to a diesel truck, a Class 8 electric truck operating 300 miles/day already has a 13 percent lower total cost of ownership per mile, a 3.2-year payback period, and net present savings of about \$200,000 over a 15-year vehicle lifetime. By 2030, battery prices are expected to be as low as \$60.00 per kWh, and electric long-haul truck total cost of ownership could be over 40 percent lower than diesel. M.J. Bradley & Associates estimates that by 2040, MDHD ZEVs in New Jersey would have an average lifetime total cost of ownership saving of \$25,000. (35 and 87)

166. COMMENT: The Department's adoption of California's ACT regulation will result in significant reductions in the health-harming emissions that directly injure residents in freight-adjacent communities. Preliminary results from a forthcoming study by M.J. Bradley & Associates finds that cumulatively, from 2020 to 2050, the MDHD vehicle electrification required by California's ACT Regulation results in 36,000 metric tons of avoided NO_x emissions,

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and 192 metric tons of avoided PM emissions. These emission reductions result in 61 fewer premature deaths, 64 fewer hospital and emergency room visits, and 35,597 fewer cases of respiratory health impacts. All told, M.J. Bradley & Associates estimates that adopting the ACT regulation would provide \$8.9 billion of net societal benefit to New Jersey from 2020 to 2050. This figure is derived from the air quality benefits described above, plus the benefits from reduced greenhouse gas emissions and savings to fleet owners and operators by switching to zero-emission MDHD vehicles. (35 and 87)

167. COMMENT: The proposed rules are a necessary first step in protecting port and freight adjacent communities from the health harms associated with PM_{2.5}, black carbon, and NO_x. According to an M.J. Bradley report, MDHD trucks are a greater source of these emissions around port-adjacent communities than passenger vehicles combined. These trucks are generally used in short-haul operations, so their local impact is much greater. (5 and 32)

168. COMMENT: California's ACT regulation is a fundamental component of meeting climate change targets and improving air quality in New Jersey. Based on preliminary findings from a forthcoming analysis (subject to change by M.J. Bradley & Associates), the monetized health benefits of New Jersey's adoption of California's ACT regulation are \$709 million; climate benefits are \$4.6 billion; and the net societal benefit of the rule from 2020 to 2050 is \$8.9 billion. Recent preliminary research also found that in New Jersey, 1,175 premature deaths were caused by vehicle emissions in the study region in 2016 with monetized health damages exceeding \$12 million. The emissions exposure from MDHD vehicles tends to be more concentrated than from passenger vehicles, particularly in communities around ports that are often predominantly low-income and people of color. (70)

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169. COMMENT: The proposed rules will result in real reductions in criteria air pollutant emissions including 40 tons of PM_{2.5}. This will generate real health benefits for the State.

Based on preliminary findings from a forthcoming analysis subject to change by M.J. Bradley & Associates, the proposed rules, in combination with California's Low NO_x Omnibus rule, could add economic benefits and jobs that pay nearly twice as much as the jobs they replace. (71)

170. COMMENT: Air pollution reaches background levels only at locations that are beyond one quarter mile from a high-volume road. A research team from the Bloustein School of Planning and Public Policy, Rutgers University, as part of a study on the health impacts of the proposed rules, performed a geospatial analysis that consisted of drawing a buffer of 0.5 mile around all of the major National Network roads in New Jersey and calculated the number of people living in census tracts that are all or partially within that buffer area. The population within the buffer area is slightly younger, with a higher non-white population and a 30 percent higher rate of poverty than the State as a whole, and with a per capita income about 13 percent lower than the Statewide per-capita income. The analysis also reveals that New Jersey's overburdened communities are more highly concentrated in areas close to major highways (58 percent of census block groups) than in the State as a whole (50 percent of census block groups). (37)

171. COMMENT: The Department's proposed rules are a great step in the direction of securing clean air for all communities, and helping the State achieve its mission of emissions reductions goals. The proposed rules can greatly help low-income and communities of color, that have for too long been the State's most overburdened communities when it comes to deadly diesel emissions, including black carbon, NO_x, sulfur oxides, and PM_{2.5}.

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The conversion to zero-emission MDHD vehicles, as well as light-duty ZEVs, will prevent approximately 200 premature deaths and more than 2,300 asthma attacks in New Jersey. (16)

172. COMMENT: In the grid region containing New Jersey, a battery electric truck has between 58 percent and 84 percent lower emissions than a diesel truck today, depending on the truck type and average vehicle speed. Thus, incorporating the ACT regulation is a critical step towards realizing cleaner air and mitigating climate change through the widespread electrification of trucks. (69)

RESPONSE TO COMMENTS 158 THROUGH 172: The Department acknowledges the commenters' support of the rules. The Department conducted its own Environmental, Economic, Jobs, and Social Impact analyses, which included estimates of the monetized health benefits and emission reductions, 53 N.J.R. at 593 to 600, but acknowledges that commenters have submitted independent studies with respect to the health impacts of local air pollution and greenhouse gas emissions, as well as additional analyses of the potential benefits of the adopted rules. Although the Department's estimates may differ from the specific figures contained in the analyses and studies provided by commenters, the Department agrees that the adopted rules will provide overall social, environmental, job, and economic benefits for residents of the State. And more specifically, 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." 53 N.J.R. at 595, quoting the 80x50 Report, p. 22.

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To the extent the comments examine the potential job impacts of the adopted rules in conjunction with California's Low NO_x Omnibus rule or the electrification of the transportation sector as a whole, those comments are beyond the scope of this rulemaking. To the extent the comments discuss labor standards, the income potential of jobs associated with the electrification of all segments of the transportation sector, or jobs related to renewable energy generation and battery storage, those comments are beyond the scope of this rulemaking. Likewise, the estimate of health benefits in New York City is beyond the scope of this rulemaking.

173. COMMENT: There are economic benefits from vehicle electrification. For example, increased electrification of transportation puts downward pressure on electricity rates for all ratepayers. According to the 80x50 Report, failure to swiftly electrify will incur continual and mounting costs: "failing to electrify the vehicle fleet increases the cost of decarbonization from 2035 to 2050 by an average of \$1.6 billion per year." (25)

174. COMMENT: The proposed rules will result in downward pressure on electricity prices as charging of MDHD ZEVs increases utility revenues, resulting in lower rates and lower bills for all ratepayers. (8)

175. COMMENT: Based on preliminary findings from a forthcoming analysis (subject to change) by M.J. Bradley & Associates, the proposed rules will result in average electric bill reductions of \$69.00 per year for commercial customers and \$16.00 per year for residential customers. (70)

RESPONSE TO COMMENTS 173, 174, AND 175: As set forth in the Economic Impact analysis, the Department considered incremental vehicle costs, infrastructure upgrade costs for return-to-base operations, fueling costs, maintenance costs, and other costs that are assumed to be the

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direct costs of the regulation. 53 N.J.R. at 597. The Department did not include, or quantify, potential electric rate changes as part of the direct costs of the adopted rules. However, as CARB noted, “[e]lectric vehicles are capable of shifting load to off-peak periods and increasing overall demand, both of which help create a more efficient, highly utilized grid. Studies have found that light-duty ZEVs provide a benefit to all utility customers as their electricity utilization drives down rates for all other ratepayers.” CARB FSOR, p. 211

Negative Impact Forecasts

176. COMMENT: The problem with the Department’s rationale for the proposed rules is that climate change is a global issue not a local air quality issue. The global level of carbon dioxide in the atmosphere is what matters for purposes of climate. The issue is so large that even the projected future carbon dioxide emissions from the entire United States will play only a small role in overall temperature impact. According to data from the Energy Information Administration, New Jersey produces two percent of the total energy-related carbon dioxide emissions of the United States. Medium- and heavy-duty trucks emit about 7.6 percent of carbon dioxide emissions in New Jersey. The proposed rules would reduce these carbon dioxide emissions by approximately 70 percent after 2030, assuming 100 percent carbon dioxide emission-free electricity generation. In other words, the rules would target approximately 0.1 percent of total U.S. carbon dioxide emissions. The climate impact of the rules is too small to mitigate temperature or sea level rise in any meaningful way. Because the actual climate impact is absolutely miniscule, the rules will have no impact on the areas New Jersey has highlighted in terms of air quality, water resources, agriculture, forest, wetlands, and carbon sequestration. (88)

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177. COMMENT: This rule proposal has enormous economic impacts, but is expected to result in only 0.44 MMT/year CO₂e in 2040. Cumulatively it will result in only 2.6 MMT CO₂e by 2040. Thus, the rules will reduce carbon emissions from the transportation sector by only 1.1 percent by 2040. If the State's total carbon output is the base, the rules will only reduce carbon emissions by less than 0.5 percent. The proposed rules will disrupt the trucking industry, and, thus, the State's distribution and logistics network, without any significant gain. The Department should find a better way to reduce carbon emissions from the transportation sector. (12)

178. COMMENT: By the Department's own estimates and scaling methodology, all of the costs and market disruptions that will result from a unilateral opt-in to California's ACT regulation will generate less than one percent (0.6 percent) of the required annual reductions in CO₂e. And even that minuscule amount is probably overstated. Either way, it is clear that the Department's proposed opt-in to California's ACT regulation is neither reasonable nor cost-effective given the anticipated reductions in greenhouse gas emissions. (27)

179. COMMENT: The proposed rules force businesses to abandon their trucks for electric versions that can add thousands of dollars more to the cost of one new truck without any meaningful contribution to the reduction of emissions as compared to the truck it is replacing. Ignoring the cost and practicality of the proposed rules will not result in meaningful emission reductions while imposing significant cost to the citizens and business interests in New Jersey. (36)

180. COMMENT: Fleet replacement is cost-prohibitive, and if proposed, a regulatory mandate to purchase ZEVs will have a significant impact. For larger construction firms, there is not just

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the cost of purchasing trucks and equipment to consider, but also the cost of installing charging infrastructure and the need to produce the electricity. In order to maintain a fleet of trucks and equipment, a contractor could easily need to build a new mini-power plant. (47)

RESPONSE TO COMMENTS 176, 177, 178, 179, AND 180: This rulemaking does two things: (1) incorporates by reference California's ACT regulation, which requires certain vehicle manufacturers to sell zero-emission trucks as an increasing percentage of their annual sales in the State; and (2) gathers information from owners and operators of fleets of MDHD vehicles within the State to inform future rulemaking efforts. By requiring transitioning from gasoline and diesel combustion engines to zero-emission vehicles and engines, this rulemaking will not only reduce emissions of carbon dioxide equivalent (CO₂e), it will also reduce emissions of local criteria pollutants like NO_x and PM_{2.5}, including one of PM_{2.5}'s highly warming components, black carbon. See 53 N.J.R. at 598. 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. *Ibid.* Further, as diesel trucks are replaced with electric, the toxic particles associated with diesel PM_{2.5} will be reduced. *Ibid.* These health benefits will result in improved local health outcomes in communities that are disproportionately affected by environmental degradation. *Ibid.*

As also noted in the notice of proposal, emissions from the transportation sector are responsible for more than 40 percent of New Jersey's total net CO₂e emissions. 53 N.J.R. at 598. By gathering information about New Jersey's existing fleets through the fleet reporting requirements rules, the Department will be in a better position to determine whether and how best to pursue a fleet purchase mandate and/or other strategies to reduce emissions from the

MDHD sector. The adopted rules are one piece of a comprehensive approach to reduce emissions from the transportation sector. 53 N.J.R. at 589. But more broadly, the State continues to develop, and refine, the mix of policies, rules, and laws that will be needed to mitigate climate change and strengthen resilience in the State. *Ibid.* 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. *Ibid.* 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. *Ibid.* Pursuant to the GWRA, New Jersey must reduce greenhouse gas emissions to 80 percent less than the 2006 level of Statewide greenhouse gas emissions by 2050 (80x50 goal). *Ibid.* Of course, reaching the 80x50 goal will require substantial reductions in greenhouse gas emissions from all sectors. And though the emission reduction estimates from this single adopted rule may seem relatively small, the Department, and other State agencies, will continue to work collaboratively over time and across economic sectors, levels of government, and through public private ventures to implement the policies that will build upon one another as the State methodically advances to meet the 80x50 goal over the next decades. *Ibid.* Given the magnitude of reductions necessary to meet the 80x50 goal, each effort to reduce greenhouse gas emissions is critical. The ACT regulation is an important initial step in the State's overall strategy.

As noted in the cost summary of the Department's Economic Impact analysis, even though "medium- and heavy-duty ZEVs have higher upfront capital costs for the vehicle and infrastructure investments, [the] lower operating costs over time result ... in lower overall costs

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for truck transportation.” 53 N.J.R. at 597. Thus, the adopted rules are a cost-effective and a necessary component of a Statewide strategy to meet the 80x50 goal.

181. COMMENT: Rushing to adopt the proposed rules in New Jersey will lead to major unintended negative consequences that will hurt the economy, the environment, and will set back, not advance, New Jersey’s goals. (1 and 72)

182. COMMENT: The proposed rules will do little to help reach a more sustainable economy and has the potential to do substantial harm and disruption to New Jersey industry. (45, 76, 82, 93, 95, and 99)

RESPONSE TO COMMENTS 181 AND 182: As set forth in the notice of proposal’s impact statements, the Department anticipates that this rulemaking will reduce emissions of the greenhouse gas, CO₂, in addition to having a net positive economic impact. See 53 N.J.R. at 596 and 598. The Department anticipates that the adopted rules will also reduce the negative effects of air pollutants, such as NO_x, PM_{2.5}, and a component of PM_{2.5}, black carbon. 53 N.J.R. at 599. 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. *Ibid.* Further, as diesel trucks are replaced with electric, the toxic particles associated with diesel PM_{2.5} will be reduced. *Ibid.* These health benefits will result in improved local health outcomes in communities that are disproportionately affected by environmental degradation, which, in turn, are expected to have positive impacts on New Jersey’s economy. *Ibid.* As also noted in the notice of proposal, emissions from the transportation sector are responsible for more than 40 percent of New Jersey’s total net CO₂e emissions. 53 N.J.R. at 598. And though this

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rulemaking will not eliminate CO₂e from the transportation sector, it will serve as an initial step in the State's pursuit of a comprehensive approach to reducing greenhouse gas emissions. *Ibid.*

With respect to the concerns about the State's economy, the Department's economic analysis in the notice of proposal acknowledged that this rulemaking will result in increased up-front capital costs when it comes to vehicle purchase prices and infrastructure. However, the Department expects that fuel savings and lower maintenance costs will lead to lower overall costs over time. See 53 N.J.R. at 597. Further, the Department anticipates that the adopted rules will have a small, net positive impact on job retention or creation in the State. See 53 N.J.R. at 599. For these reasons, the Department regards this rulemaking as a positive contribution to the State's environmental and economic goals.

183. COMMENT: Efforts to prematurely force the rollout of heavy-duty ZEVs in New Jersey could have damaging consequences for the economy and the technology's adoption in the marketplace. (49, 75, 76, 82, 93, 95, 99, and 105)

184. COMMENT: The Department's proposal to incorporate by reference California's ACT regulation is not an effective path forward if the State wants a sustainable marketplace. The rules provide no guarantee that MDHD ZEVs will be purchased, nor does it guarantee the necessary charging infrastructure. Forcing the rollout of heavy-duty ZEVs in New Jersey, at a rate not dictated by market adoption, will have damaging repercussions for the economy and for the long-term adoption of this technology. (98)

185. COMMENT: Electric powered MDHD vehicles that meet California's ZEV standards are still a long way off. Requiring manufacturers to rush ZEV trucks to market before they are ready for production would be a mistake and could force some manufacturers and many dealers, as well

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as truckers, out of business. The Department should make sure that there are programs in place that can help businesses and consumers afford these new vehicles before they are required to be introduced. (72)

186. COMMENT: Premature efforts to force the rollout of heavy-duty ZEVs in New Jersey could have damaging consequences for the economy and the technology's adoption in the marketplace. The proposed rules fail to provide the funding for the build-out of the necessary recharging/refueling infrastructure or ZEV purchase incentives. (18)

RESPONSE TO COMMENTS 183, 184, 185, AND 186: As explained more thoroughly in the Response to Comments 105, 106, 107, 108, and 109, CARB developed the adopted rules to provide manufacturers with the flexibility to offer competitive products that fleets will want to purchase in the appropriate market segments initially and the time to research, develop, test, and validate products in those market segments that are less mature. Based upon CARB's market segment analysis and the flexible regulatory framework, the Department is confident that the manufacturers will be able to offer competitive products in the early years while developing product lines for the less mature markets in the later years. As discussed more thoroughly in the Response to Comments 181 and 182, the Department anticipates that the adopted rules will contribute positively to the State's economy.

187. COMMENT: While several of the elements of California's ACT regulation, which is proposed to be incorporated by reference, are directionally consistent with those that the Truck and Engine Manufacturer's Association envisions for the EPA's next-tier nationwide rule, the California ACT regulation would be implemented with unreasonably short timelines,

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questionable technical feasibility, unsustainable cost-benefit metrics, and material adverse impacts on new vehicle prices and sales volumes. Commercial fleets have not reacted positively in the past to the deployment of major new emissions-control technologies on an accelerated timeline. As a result, California, and any opt-in states adopting the ACT regulation, are likely to have negative consequences similar to the very significant “pre-buy/no-buy” scenarios that occurred in 2007 with respect to commercial vehicles. (27)

RESPONSE: As noted in the notice of proposal Summary, the adopted rules will not be implemented in New Jersey until model year 2025, providing some lead time for manufacturers as contemplated by the CAA. Equally important, and as noted by CARB, “[t]he approved regulation includes flexibility for manufacturers to produce and sell ZEVs into the market segments they deem to be most suitable for electrification. Specifically, the regulation provides flexibility for manufacturers to shift sales between weight classes, to bank and trade credits, to earn early credits, and to meet part of their compliance obligation with near-zero-emission vehicle sales that have a minimum all-electric range ... In summary, the approved regulation will ensure that manufacturers develop competitive ZEV products at price points that will meet fleet needs.” CARB FSOR, p. 100.

The Department recognizes that there are certain market segments that are not yet suitable for full electrification, but California’s ACT regulation does not include a purchase mandate. Without a purchase mandate, fleets will not feel compelled to engage in tactics such as pre-buys or no-buys. Likewise, manufacturers will not feel compelled to push sales of a ZEV market segment that is not ready for commercial production. Based upon CARB’s market segment analysis and the flexible regulatory framework, the Department is confident that the

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sales mandate is technically feasible within the timeframe, alleviating the commenter's concerns about cost-benefit metrics and vehicles prices.

Additionally, the Department acknowledges that EV charging capacity does not yet exist to serve those MDHD vehicles that cannot return to base to recharge at night. However, as discussed in the Response to Comments 105, 106, 107, 108, and 109, CARB's market assessment accounted for the suitability of each market segment based upon range and charging requirements among other factors. Thus, widespread access to public fast charging for MHDV will not be necessary for compliance with the adopted rules. Still, the Department recognizes that the build-out of the infrastructure for ZEVs and supporting vehicle adoption is critical for the success of an expanding ZEV market. As discussed in the Response to Comments 140 through 147, the Department and other State agencies are coordinating their efforts to ensure policies and programs are in place to facilitate development of necessary infrastructure as New Jersey makes the transition to ZEVs.

188. COMMENT: Battery electric trucks are priced significantly higher than conventionally powered trucks and as a result the proposed rules could make all trucks more costly and would reduce overall new MDHD vehicle sales (assuming constant capital expenditures), thereby slowing fleet turnover. (31)

RESPONSE: The Department acknowledges that currently MDHD ZEVs are more expensive to manufacture, which can be attributed, at least in part, to initial research and development costs. See CARB ISOR, p. IX-31. Accordingly, manufacturers may seek to recoup those costs by increasing the prices across all of their offerings, including gasoline- and diesel-fueled truck models, or they may choose to absorb the cost themselves. *Ibid.* As the Department stated in

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the notice of proposal, “[i]t is not straightforward to predict how these costs and cost-savings [of electric vehicles] would be passed on to consumers. Vehicle pricing is complex, and different manufacturers could use different strategies to pass on these costs.” 53 N.J.R. at 597 quoting CARB document. However, there are additional considerations. First, any given manufacturer’s decisions regarding its internal combustion engine’s vehicle pricing will happen with or without New Jersey’s adoption of the proposed rule. Second, the lower operating costs discussed in the Response to Comments 72 and 73, may provide additional capital to firms operating a mixed ZEV/internal combustion engine fleet that can offset any potential increases in internal combustion engine vehicle prices. Moreover, the “ACT regulation may cause the cost for components specifically designed for medium- and heavy-duty ZEVs to decrease as economies of scale start to emerge in this new market.” CARB ISOR, pIX-11. For all of these reasons, and the reasons discussed in the Response to Comments 190, 191, 192, 193, 194, 195, and 196, the Department does not agree that the adopted rule will reduce overall sales of MDHD vehicles.

189. COMMENT: The cost of the credits in the proposed rules will be passed down through the supply chain, hurting gasoline retailers when they purchase motor fuel, auto parts, and general goods from their distributors. Many gasoline retailers are small businesses working on thin markups, these higher costs will be passed on to the general public in the form of higher prices. They will be added to the ever-increasing costs of labor, credit card fees, utility costs, and taxes that are also passed on to the general public. (79)

RESPONSE: As noted in the notice of proposal Summary, the adopted rules provide several options for manufacturers who must meet the credit/deficit requirements. See 53 N.J.R. at 591. One option is for a manufacturer to generate credits from selling ZEVs or NZEVs. *Ibid.* As

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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.

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. 53 N.J.R. at 591. Furthermore, a manufacturer may bank credits for future use. As noted by CARB, in their final statement of reasons, the approved regulation includes flexibility for manufacturers to earn credits and produce and sell ZEVs into the market segments they deem to be most suitable for the products they manufacture. See CARB FSOR, pp. 100-101. The credit and manufacturing flexibility provided by the proposed rule ensures that manufactures are able to optimize production toward the most cost effective and operationally suitable market segments. The credit generation, banking, and trading system is, therefore, anticipated to minimize cost increases to manufacturers. As the Department stated in the notice of proposal, “[i]t is not straightforward to predict how these costs and cost-savings [of electric vehicles] would be passed on to consumers. Vehicle pricing is complex, and different manufacturers could use different strategies to pass on these costs.” 53 N.J.R. at 597 quoting CARB SRIA, p. 32. In the same vein, it is not possible to predict how, or even if, a trucking company would pass the costs retailers, or in turn, how those possible costs might be passed to the general public by increasing the costs of consumer goods.

190. COMMENT: The proposed rules will have no practical positive effect on the environment because truck owners can simply purchase new diesel trucks in adjacent states to avoid the higher up-front vehicle expense, and less reliable and accessible infrastructure of ZEVs. (79)

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191. COMMENT: If New Jersey incorporates by reference the California ACT regulation as proposed, the result will be huge increases in the cost of a truck; costs that greatly exceed any possible corresponding environmental benefits to New Jersey. Businesses with commercial vehicles will likely keep their old, higher emitting products longer or will buy their vehicles out-of-State. (1)

192. COMMENT: If the vehicles subject to the sales mandate of the proposed rules are too expensive, and there is no corresponding incentive to bring the costs more in line with available diesel trucks, consumers will not buy them. Instead, they will likely keep their older, higher-emitting vehicles longer. (72)

193. COMMENT: The proposed rules will not result in the anticipated emission reductions. Contractors can, and do, go out-of-State for their equipment purchases, which will limit the impact of this new regulatory framework, which is ill-conceived given the State's place in the region. (47)

194. COMMENT: The proposed rules do not include the core components of an effective MDHD ZEV program: significant public investments in ZEV infrastructure build-out and in ZEV-purchase incentives. Thus, it will not result in an effective ZEV program for MD and HD ZEVs. The Department's proposed rules will likely have the unintended consequence of slowing the turnover of the MDHD truck fleets in New Jersey. Instead of buying ZEV trucks, fleet customers in New Jersey may simply choose to purchase other less expensive conventionally fueled trucks, shift to purchasing low-mileage used vehicles, or to continue maintaining their existing trucks. This will likely result in corresponding negative impacts on air quality. (27)

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195. COMMENT: Under the proposed rules, fleets will be forced to slowly incorporate costly and unproven ZEV technology. Thus, rather than replacing their older, higher emitting vehicles with less-polluting vehicles in the short-term, businesses and fleets are likely to wait to make new purchases until the technology that satisfies the new sales mandate is available. This will be an impediment to more immediate relief and longer-lasting public health benefits. (29)

196. COMMENT: Due to the fact that the proposed rules contain no registration requirement, the program is inherently flawed and will not have the desired impact on the State's trucking fleet but will put in-State dealers of trucks out of business. There are a variety of ways to get around the proposed rules, including purchasing trucks before the mandate occurs, purchasing after the mandate occurs since only a certain percent of vehicles need to be ZEVs, holding on to older vehicles longer and, most significantly, purchasing the vehicle from another state without a vehicle sales mandate. Even if a registration mandate were adopted at a later date, it could easily be circumvented by moving fleets to another state and merely servicing in New Jersey. Thus, the proposed rules will not result in the anticipated emission reductions and will put New Jersey dealers of MDHD vehicles out of business. (12)

RESPONSE TO COMMENTS 190, 191, 192, 193, 194, 195, AND 196: The ACT regulation does not require fleets to purchase ZEVs. Fleets will be able to choose when, or whether, to purchase ZEVs and will choose to do so only if it makes financial and operational sense for them. In turn, vehicle manufactures will have a financial interest in prioritizing production of electric vehicle models that support the most cost effective and operationally suitable cases. In the absence of a purchase mandate, fleets should not be compelled to engage in tactics, such as pre-buys, holding on to older vehicles longer, or purchasing non-ZEV vehicles from another state.

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Because the sales mandate starts with a small percentage of overall sales of MDHD vehicles and ramps up over time, New Jersey dealers, like manufacturers, will have an opportunity to prepare for the market changes as they continue to sell conventionally fueled trucks along with ZEV technology trucks.

The Department also acknowledges that businesses may have some initial hesitation to purchase ZEV technology because ZEVs will cost more upfront due to higher initial purchase prices and infrastructure costs. However, as noted in the notice of proposal, Economic Impact, the Department estimates that the lifetime cost of maintaining a ZEV will be lower than a comparable gas or diesel vehicle. See 53 N.J.R. at 597. Additionally, the Department recognizes that the build-out of the infrastructure for ZEVs and supporting vehicle will facilitate the expansion of certain ZEV market segments. As discussed in the Response to Comments 140 through 147, State agencies are coordinating their efforts to ensure policies and programs are in place to facilitate the transition to ZEVs.

For all of these reasons, the Department is confident that the estimated emission reductions in the Environmental Impact analysis will not be frustrated by slower fleet turnover or out-of-State purchases.

197. COMMENT: The State's truck fleet is continuing to evolve and improve. Forty-one percent of New Jersey's fleet of heavy-duty diesel vehicles use the newest generation diesel technology that meets the latest EPA emissions standards for PM and NO_x. The continued utilization of this technology will result in improved air quality. The current strides being made will be adversely impacted by the proposed rules, which may result in consumers deferring replacement of older

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vehicles due to cost. One of the unintended consequences of the proposed rules is that, due to costs, consumers may effectively forgo the purchase of low emissions diesel trucks and near-zero-emissions natural gas trucks that have the ability to reduce emissions considerably. (31)

RESPONSE: As discussed more fully in the Response to Comments 74, 75, and 76, the primary objective of New Jersey's incorporation of California's ACT regulation is to accelerate ZEV deployment in New Jersey. Rather than viewing lower NO_x technology and ZEV technology as an either/or proposition, the Department believes both technologies may be pursued simultaneously. While ZEV technology is expected to advance long-term greenhouse gas emission reduction goals, lower NO_x technology may address local air pollutants and greenhouse gas emissions in the near term. Of course, it is important to note that "diesel vehicles produce diesel particulate matter which is comprised of black carbon and numerous organic compounds including over 40 known cancer-causing organic substances. While mobile sources comprise a small portion of [California's] PM emissions, they represent a significant portion of [California's] diesel PM inventory. On the other hand, ZEVs produce no tailpipe PM emissions." See CARB FSOR, p. 253.

198. COMMENT: The Department did not address the emission or economic implications of developing additional power generation capacity as part of its proposed rules. There have been estimates, even in the 2019 EMP, that the electrification of the transportation and building sectors will require a doubling or tripling of the State's electrical generation capacity. This will add enormous costs to the State, especially when you then add in the cost of transmission and distribution lines. While it may be possible for any additional power plants that will be needed

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to support electric vehicles to be run on renewable energy sources, in all likelihood, they will run on natural gas. It is also possible that the additional power generation will be constructed in urban, environmental justice communities. This would create more localized pollution sources, defeating the Department's intention to decrease localized pollution in environmental justice communities. (12)

199. COMMENT: The proposed rules fail to quantify the cost of infrastructure upgrades necessary to implement the rules. The electricity needed to power the complete electrification of transportation and other sectors is estimated to increase by 60 to 90 percent over the next three decades. This large increase in electricity demand occurs despite significant energy efficiency improvements. Achieving a "Net-Zero America" is estimated cost at least \$2.5 trillion in additional capital investment into energy supply, industry, buildings, and vehicles over the next decade relative to business as usual. An aggressive electrification scenario is estimated to require \$2.6 trillion of energy supply-side capital before 2030, and \$10 trillion by 2050. Electric customers could ultimately be forced to foot much of this bill through their utility bills. These infrastructure costs will increase ratepayer's costs if the utilities seek to include these costs in their rate-base. The current average retail price of residential sector electricity in New Jersey is about 16 cents per kilowatt-hour (kWh). New Jersey's electric rates already are more than 22 percent above the national average. If the department moves forward with the proposed rules, these rates could rise even more above the national average. The Department must consider these costs before proceeding. (31)

RESPONSE TO COMMENTS 198 AND 199: As noted in the notice of proposal Summary, increased deployment of ZEVs under the adopted rules could place additional demand on the

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existing electric supply. See 53 N.J.R. at 589. As set forth in the Economic Impact analysis, the Department considered incremental vehicle costs, infrastructure upgrade costs for return-to-base operations, fueling costs, maintenance costs, and other costs that are assumed to be the direct costs of the regulation. However, the costs for electrification of the entire transportation and building sectors within the State or at a national scale over the next 30 years, because that is beyond the scope of this rulemaking, as is an “increase [in] ratepayer’s costs if the utilities seek to include these costs in their rate-base.” While it is possible that utilities will seek to include increased costs in the rate base, it is also possible that ZEV charging could provide a benefit to ratepayers by bringing costs down if charging demand is properly managed by utilities. See CARB FSOR, p. 211.

As the Department stated in the notice of proposal and in its responses to comments, this rulemaking is one part of a comprehensive strategy to reduce greenhouse gas emissions Statewide. To reach the 80x50 goal, the Department and other State agencies, including the BPU, will need to continue to collaborate to ensure the State reduces reliance on fossil fuels for electric generation and supply. Similarly, the Department and BPU will need to update the modeling and strategies outlined in the 2019 EMP and 80x50 Report, including the models that consider the costs. As to the concerns about localized pollution from increased electric generation, recent legislation requires careful analysis before a proposed power plant could be constructed in an overburdened community. See N.J.S.A. 13:1D-157.

200. COMMENT: New Jersey’s implementation of the proposed rules will likely result in the relocation of trucking businesses to neighboring states that do not have ZEV mandates for

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MDHD trucks. This in turn will result in a loss of jobs and tax revenue in New Jersey that California never considered. Moreover, the Department failed to quantify these losses. (31)

RESPONSE: As the Department stated in the Response to Comments 190, 191, 192, 193, 194, 195, and 196, the adopted rules do not include a purchase mandate. Thus, New Jersey businesses are not compelled to relocate to another state. As discussed in the Jobs Impact, 53 N.J.R. at 599, the Department does not anticipate a net loss of jobs (and associated tax revenue) as a result of the adopted rules.

201. COMMENT: When California implemented its light-duty truck standards, there were several provisions, such as the travelling requirement and banking, that benefited California at the expense of every other state. That is one reason why California is far ahead of other states in EV adoption, even though many other states, including New Jersey, adopted the program shortly after California. (12)

RESPONSE: The concerns of California benefiting at the expense of other states due to travel requirements and banking, which initially took place under the Low Emission Vehicle Program for light-duty vehicles, N.J.A.C. 7:27-29, do not apply to the adopted rules for MDHD vehicles because there will be no unified banks that allow for credits transfers between states, and no travel provision allowing credit penalties to be avoided by moving the credits from state-to-state.

202. COMMENT: The prices of metals used in electric vehicle batteries are currently trending higher, yet the proposed rules are based on an assumption that technology will advance at a pace that exceeds the electrification of the light duty sector and that the cost of battery metals decreases over time. (3)

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203. COMMENT: While there is demand for electric trucks, the massive amounts of minerals required for the electrification of MDHD vehicles, coupled with long lead times, and large concentration of processing in China will likely make it difficult to quickly drive down the prices of these vehicles to facilitate the sales necessary to comply with the requirements of the proposed rules. The IEA looked at the lead-time (from discovery to production) of energy transition minerals based on 35 projects that came online in the last decade. Lead-times ranged from four years for Australian lithium, seven years for South American lithium, 13 years for nickel sulfide, 17 years for copper, to 19 years for nickel laterite. While demand for these minerals is increasing, it will be difficult to keep up with demand by bringing new supply online with lead-times like these. Additionally, the concentration of mineral processing in a single country, China, is of great concern. Even if there were no geopolitical concerns with China, it is concerning to have so much of the world's processing for minerals necessary for electric vehicles in a single country. (88)

204. COMMENT: The proposed rules raise concerns because they mandate sales of electric vehicles despite supply chain constraints and the availability of certain critical minerals. Massive electrification would require significantly more critical minerals; given the challenges regarding permitting of new mines in the United States, our nation would be overly reliant on foreign nations for minerals needed for mass electrification. (36)

205. COMMENT: Adopting the proposed rules will push electric vehicles into the market before supply and national security issues can be properly addressed. National capacity for extraction and processing of materials for transport show that gasoline and diesel concentration is diffuse

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and the U.S. is a leading producer. On the other hand, materials and processing for batteries and electric transport are much more concentrated and dominated by China. (31)

RESPONSE TO COMMENTS 202, 203, 204, AND 205: The Department acknowledges that global mineral resource supply chains, production growth rates of such mineral resources nationally or internationally, current or future resource pricing, and the sourcing of mineral resources required for electric vehicle production are important issues, as they relate to ZEV production. However, any increased production resulting from the adopted rules is not likely to have a significant impact on the global market for ZEV components. Moreover, any potential supply chain or national security issues must be addressed at a national level. Thus, the Department will monitor, participate in, and coordinate with all Federal efforts to address potential mineral resource concerns. However, these macro-economic level concerns will require coordination with the international community and private industry through national strategies advanced by the Federal government. Though beyond the scope of this rulemaking, the Department refers the commenters to President Biden's Executive Order 14017, which directed the Biden Administration to develop a strategic process to address vulnerabilities and opportunities in the supply chains of four key products, including advanced batteries used in electric vehicles.

Source: <https://www.energy.gov/articles/fact-sheet-biden-harris-administration-100-day-battery-supply-chain-review>

206. COMMENT: Tailpipe emissions from natural gas vehicles are less than from diesel vehicles. However, on a well-to-wheel basis, natural gas leaks can quickly offset any climate benefit. Also, it is clear that the supply of high integrity, environmentally responsible biomethane is constrained. (70)

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RESPONSE: The adopted rules require a portion of MDHD sales to be ZEVs to allow time for the market to mature. Accordingly, the remaining share of sales could come from other technologies, such as natural gas vehicles. For discussion of biofuels' ability to meet the State's decarbonization goals, please see the Response to Comments 88, 89, 90, 91, and 92. Ultimately the 2019 EMP found that high levels of vehicle electrification are the most cost-effective way to reach the State's 80x50 goals. Thus, the Department remains focused on zero carbon transportation technology as the ultimate solution.

207. COMMENT: The Department should examine battery life-cycle issues. More research of the life-cycle costs and impacts of ZEV and ZEV batteries is necessary to fully understand health impacts through their manufacture, use, and disposal. (37)

208. COMMENT: Every transportation technology uses energy and impacts the environment in different ways throughout its lifecycle -- during the production, operation, and disposal of the vehicle. A single reliance on vehicle tailpipe emissions measurements results in a distorted and scientifically incomplete evaluation of the environmental performance of different powertrain technologies that should not be used for regulatory decision making. Before adopting these rules, the Department must quantify the holistic, real-world greenhouse gas emissions associated with battery powered MDHD trucks within the State. Specifically, the Department should consider the environmental implications of battery material sourcing, BEV recharging, and end-of-life battery disposal. Focusing solely on a comparison of tailpipe emissions ignores a real-world consideration that is of central relevance to this rulemaking. (31)

RESPONSE TO COMMENTS 207 AND 208: The Department acknowledges that, due to the early state of the electric vehicle market, there is not a complete understanding of the life-cycle costs

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and impacts of batteries for ZEVs. However, the concern that the Department failed to provide a lifecycle analysis for battery-powered vehicles is misplaced. While it is true that each technology uses energy and impacts the environment in different ways throughout its lifecycle, the Department's analysis was based on a comparison of the tailpipe emissions from ZEVs and diesel- and gasoline-powered vehicles, which is a traditionally accepted regulatory method of determining direct impacts. It would have been inappropriate to compare the environmental impacts of battery technology, based upon a life-cycle analysis, with the tailpipe emissions from diesel- and gas-powered vehicles.

Moreover, as noted by CARB, it is assumed that on average battery-electric vehicles would need a battery replacement after 300,000 miles based on data from transit buses and light-duty vehicles with cooling systems. This means that high-mileage vehicles, such as Class 8 tractors would need a battery replacement numerous times, while low-mileage vehicles may not need a battery replacement. Class 2b-3 vehicles have fairly low annual mileage and are not anticipated to exceed 300,000 miles over the regulatory analysis, so no battery replacement was assumed. CARB FSOR, p. 216. Following CARB's analysis, the Department estimated 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. 53 N.J.R. 598. Thus, battery costs were factored into the Department's economic analysis.

As noted in the Response to Comments 202, 203, 204, and 205, there are important issues related to ZEV batteries, such as mineral resource supply chains, current or future resource pricing, and the sourcing of minerals. However, any increased production resulting from the adopted rules is not likely to have a significant impact on the global market for ZEV

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components. Moreover, any potential supply chain issues must be addressed at a national level. Thus, the Department will monitor, participate, and coordinate with all Federal efforts to address potential mineral resource concerns, but the manufacture and disposal of ZEV batteries are beyond the scope of this rulemaking.

Assumptions Used for Impact Analyses

209. COMMENT: A recent study by Ramboll found that New Jersey's electricity mix results in 41 percent more greenhouse gas emissions per unit of electricity generated than in California. Thus, replacing a diesel vehicle with an electric one will result in less significant emission reductions in New Jersey than in California for the same cost. (98)

210. COMMENT: The greenhouse gas emission rates from electric generating units in New Jersey will remain higher than in California through 2040, which encompasses the full phase-in period of California's ACT regulation. Switching an increasing percentage of MDHD vehicles that will be powered by these electric generating units will result in approximately 30 percent less greenhouse gas emission reductions in New Jersey than were calculated by the Department when it used California's analysis and simply scaled for vehicle miles travelled (VMT). Moreover, the difference in the electric grids of California and New Jersey will yield different risks and impacts from power grid interruptions as the percentage of MDHD vehicles increases. (27)

RESPONSE TO COMMENTS 209 AND 210: The Department acknowledges that one unit of electricity consumption presently produces more greenhouse gases emissions in New Jersey than it would in California. However, as explained below, the difference is trivial when calculating the greenhouse gas savings from implementation of the adopted rules.

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CARB performed an analysis of the relative efficiencies of MDHD diesel and battery electric vehicles and found that in miles per gallon diesel equivalent, battery electric vehicles consume two to five times less energy per mile driven than their diesel-fueled counterparts. See CARB, Battery-Electric Truck and Bus Energy Efficiency Compared to Conventional Diesel Vehicles, 2018, <https://ww2.arb.ca.gov/sites/default/files/2018-11/180124hdbevefficiency.pdf>) (CARB Energy Efficiency Comparison). In plain terms, the amount of energy from the grid required to propel an electric vehicle is two to five times less than the amount of energy from diesel fuel combustion required to propel a diesel-fueled vehicle. Therefore, if the electricity mix used to power an electric vehicle had the same greenhouse gas intensity as energy from diesel fuel, electric vehicles would still reduce greenhouse gas emissions by a factor of two to five. Hence, 50 to 80 percent of the greenhouse gas savings from electric vehicles are attributable to the efficiency of the electric drivetrain, while the remaining 20 to 50 percent of greenhouse gas emissions are influenced by the greenhouse gas intensity of the electricity mix used to power the vehicle.

Still, the commenters are focused on the difference in the greenhouse gas intensity of the electricity mix generated in California versus New Jersey. To illustrate the relatively small influence of electricity mix emission rates, the Department calculated the difference in greenhouse gas emission reductions for a Class 5 parcel delivery vehicle in California versus New Jersey using the 2019 emission rate estimates from the Ramboll memo and the efficiencies set forth in the CARB Energy Efficiency Comparison. Based on the 2019 electricity mix in the two states, a Class 5 electric parcel delivery vehicle would have 89 percent less greenhouse gas emissions per-mile relative to an equivalent diesel vehicle in New Jersey, whereas in California,

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the benefits would be 92 percent. In other words, the difference in the carbon intensity of the electric grids of New Jersey and California, both of which are less carbon-intensive than diesel fuel, would account for only a three percent difference in the total greenhouse gas emission reductions resulting from implementation of the rules in this case.

Of course, the ACT regulation will not be implemented in New Jersey until model year 2025. And since New Jersey and California have similarly aggressive electric grid greenhouse gas intensity targets, the reductions from implementation of the rules are anticipated to increase over time. The 2019 EMP establishes New Jersey's goal of 100 percent clean energy by 2050, with an interim 50 percent Renewable Portfolio Standard already in place for 2030. See 2019 EMP, p. 99. The study provided by the commenter states that "[greenhouse gas] emission rates in New Jersey likely will be higher than in California at least through 2035; therefore, emissions from electricity used to charge vehicles would be higher. Post-2035, the [greenhouse gas] emission rates could be more comparable through the adoption of out-of-state renewables." Truck and Engine Manufacturer's Association Comment, Attachment B (Ramboll memo) p. 8. Since the adopted rules include sales requirements that increase over time, the bulk of total energy consumed by electric vehicles sold to generate credits under the adopted rules will occur after 2035, when New Jersey's grid could reach parity or have lower emission rates than California's grid.

To expand on the illustration above, the Department calculated the estimated greenhouse gas emission benefit from a hypothetical Class 5 electric parcel delivery vehicle in 2025, using projected emission rate estimates from the Ramboll study, and determined it would be 92 percent in California and 89 percent in New Jersey; and in 2035, the estimated

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benefits would be equal at 97 percent. These savings rates are converging and increasing toward 100 percent over time, so any remaining differences in electric grid greenhouse gas emissions rates in the two states will become increasingly trivial.

211. COMMENT: The Department has not proposed to adopt California's Truck and Bus regulation, which requires the accelerated turnover of pre-2010 MD and HD vehicles in California. Therefore, the underlying economic dynamics for new MDHD vehicle sales in the two states are fundamentally different. (27)

RESPONSE: The Department interprets the comment as raising a concern that the lower average age of the fleet in California, as a result of the requirements of the Truck and Bus regulation, could potentially suppress the rate of new heavy-duty vehicle sales in California in the late 2020s during the early years of the implementation of the ACT regulation. Further, if new MDHD vehicle sales are lower in California as a result of the Truck and Bus regulation, then New Jersey's adoption of California's ACT regulation could result in a slightly higher share of ZEVs being sold in New Jersey relative to the State's MDHD population during that same timeframe.

While New Jersey may see a slightly higher turnover rate of heavy-duty diesel vehicles than California in the late 2020s, California fleets will necessarily see a relatively higher rate of turnover in subsequent years, as their newer vehicles reach end of life. Ultimately, the average turnover rates will be similar between the two states. Moreover, California's Truck and Bus Regulation does not affect medium-duty (Class 2b and 3) vehicles, or vehicles powered by any fuel other than diesel. Thus, the adoption of California's Truck and Bus regulation in New Jersey would impact only approximately 34 percent of the State's MHDV population that will be

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covered as a result of the adopted ACT rules. Given the limited number of vehicles impacted and the long-term sales goals, the Department strongly disagrees with the unsupported assertion that the Truck and Bus regulation will have a fundamental impact on the economic dynamics of the adopted rules.

212. COMMENT: Changing from liquid fuels to electricity to power vehicles will require large infrastructure changes, but the proposed rules do not discuss this challenge other than to note California's analysis. For example, there will be a need to bring large amounts of electricity to fleet owners who will charge large numbers of fleet vehicles in areas where there is currently less electricity demand. And then there is the issue of the charging mechanism. While "megachargers" of one megawatt or more would be capable of charging trucks operating over long distances reasonably quickly, there is presently no standardization of megachargers. Despite the electric infrastructure challenges, the rulemaking does not address whether the Department has considered these issues or the infrastructure challenges that will be specific to New Jersey. (88)

213. COMMENT: The rulemaking fails to recognize a key component that will support the future growth of electric vehicles: widely deployed charging or hydrogen fueling infrastructure. Commercial vehicle fleets will require multiple charging options at varied locations to support high power opportunity charging. For some high demand applications, such as: airport shuttles, drayage, day cab, and short and regional haul application supporting continuous operation, the installation of multiple Fast DC chargers (megachargers) may require megawatt level service upgrades. Infrastructure challenges are particularly acute in the hydrogen supply and distribution network. Most existing stations can dispense less than 500 kg/day or less than 450

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diesel gallon equivalents, or enough hydrogen to refuel a conventional line haul truck 1.5 times.

(30)

RESPONSE TO COMMENTS 212 AND 213: The Department has considered the infrastructure challenges that will arise as the State's MDHD sector transitions to ZEV technology. As discussed more thoroughly in the Response to Comments 136, widespread access to public fast charging for MDHD vehicles will not be necessary for compliance with the adopted rules because CARB's sales percentages were based on the assumption of return-to-base operations where infrastructure would be installed by the fleet. These costs were included as part of the Economic Impact analysis. See 53 N.J.R. at 597-98. Given this assumption about overnight-depot charging, the Department determined that megachargers will not be needed for compliance with the adopted rules. Similarly, manufacturers will be able to meet ZEV sales requirements without requiring poorly suited, high-demand applications to convert to ZEVs.

Nonetheless, the Department acknowledges that the deployment of ZEVs in certain MDHD market segments would accelerate more quickly if there was a broader network of public charging infrastructure. As part of the 2019 EMP, the BPU analyzed future increases to transmission and distribution costs related to increased vehicle electrification, including MDHD ZEVs. Not only does the 2019 EMP address charging infrastructure costs, but the BPU has also released its Straw Proposal to stakeholders in an effort to determine the best path forward for infrastructure challenges related to medium- and heavy-duty electric vehicles.

214. COMMENT: In the absence of any corresponding ZEV-purchase mandates, any incentives to promote ZEV purchases, or the necessary build-out of a robust charging infrastructure, the

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Department cannot rely on California's analysis to assume that the ACT regulation can be successfully implemented in New Jersey. (27)

215. COMMENT: The Department proposes to incorporate by reference California's ACT regulation. However, California has a low carbon fuel standard that allows the State to invest billions of dollars into vehicle incentives. In contrast, New Jersey lacks many of the policies, like the low carbon fuel standard, which California has had in place for years that support the electric vehicle market. (3)

216. COMMENT: If New Jersey incorporates by reference California's ACT regulation, concerns over the favorability of the market environment loom larger than they do in California. New Jersey has far less funding available to support heavy-duty charging infrastructure investments and purchase incentives; the utilities operating in New Jersey have less experience preparing for the impact of the unprecedented demands of heavy-duty vehicles on the grid; and fleets have far less familiarity with operating battery electric trucks in their commercial operations. New Jersey also lacks California's complimentary regulations, such as the advanced clean fleet rule. (26)

RESPONSE TO COMMENTS 214, 215, AND 216: While New Jersey does not have a low carbon fuel standard like California's, New Jersey has several existing and proposed programs that do, and will continue to, provide funding for the costs associated with MDHD electric vehicles. For example, the Economic Development Authority has a program known as the New Jersey Zero Emission Incentive Program (NJZIP) that provides vouchers for the purchase of MDHD electric vehicles. The BPU released its Straw Proposal to seek input on ways for utilities to support MDHD electric vehicles in addition to the existing or forthcoming light duty make-ready

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programs available from New Jersey utilities. See

<https://nj.myaccount.pseg.com/myservicepublic/electricvehicles> and

[https://www.atlanticcityelectric.com/SmartEnergy/InnovationAndTechnology/Pages/Electric-](https://www.atlanticcityelectric.com/SmartEnergy/InnovationAndTechnology/Pages/Electric-Vehicle-Program.aspx)

[Vehicle-Program.aspx](https://www.atlanticcityelectric.com/SmartEnergy/InnovationAndTechnology/Pages/Electric-Vehicle-Program.aspx). The Department also offers electric vehicle charging equipment grants

for fleets through the It Pay\$ to Plug In program, and offers grants for MDHD electric vehicle

purchases. These are examples of existing programs in New Jersey, which the Department

anticipates will be expanded as the State continues to take steps toward the 80x50 goal.

Further, the sales percentage requirements of the adopted rules ramp up gradually over time,

allowing infrastructure installation to increase gradually as the MDHD market continues to

mature and prices decrease. Notably, the Economic Impact analysis in the notice of proposal

did rely on many of CARB's assumptions, but was scaled to reflect the absence of California-

specific incentive programs. See 53 N.J.R. at 597.

217. COMMENT: California is geographically larger and more isolated than New Jersey. This

would make it more difficult for companies with MDHD fleets to service California from a

neighboring state. On the other hand, New Jersey has multiple neighboring states that are

close enough to operate fleets in New Jersey by crossing State lines. If New Jersey incorporates

by reference California's ACT regulation, companies may forgo the requirements of the

regulation in New Jersey by running their businesses out of neighboring states. (31 and 79)

218. COMMENT: If the proposed rules are adopted, the sales mandate will force New Jersey

companies to avoid or delay purchasing the new vehicles, which will be more expensive, and

include unproven emissions control technologies. Meanwhile, competing companies based

outside of New Jersey will operate in New Jersey with upgraded fleets meeting Federal engine

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emissions standards with the latest safety and convenience features. Accordingly, out-of-State companies will realize competitive advantages in New Jersey. (45)

219. COMMENT: Unlike California, the majority of New Jersey's freight movements are interstate shipments. If the proposed rules are adopted, out-of-State, petroleum powered, commercial trucks could supplant battery powered trucks, especially in the vital urban areas of northern New Jersey and the Philadelphia metro region. (31)

220. COMMENT: If ACT is adopted, truck dealerships in the State may see their businesses suffer, long-haul fleet operators may choose to move out-of-State, and trucking-related job losses will occur. The Department failed to account for these consequences in its analysis. (27)

RESPONSE TO COMMENTS 217, 218, 219, AND 220: Because ACT is not a purchase mandate, New Jersey companies will have no reason to purchase ZEVs or NZEVs that would put them at a competitive disadvantage relative to out-of-State competitors; and therefore, no incentive to move operations out of New Jersey. Companies operating MDHD vehicles in New Jersey need only purchase ZEVs or NZEVs when they believe that it is in their best interest to do so. As discussed more thoroughly in the Response to Comments 122, 123, 124, 125, and 126, the adopted rules were designed to provide manufacturers with the flexibility to produce and sell ZEVs into the market segments they deem to be most suitable and the time to expand to other sectors as the mandates ramp up. Similarly, New Jersey businesses would have no new incentive to delay the retirement of older MDHD vehicles.

221. COMMENT: California admitted in its analysis that manufacturers may shift sales of MDHD vehicles out of state to avoid the requirements of the ACT regulation in California. The risk of

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shifting sales is even greater in New Jersey given the number of close neighbors without a similar mandate. Thus, out-of-State dealerships will benefit to the detriment of New Jersey dealerships and the State's tax revenue. (31)

222. COMMENT: If New Jersey incorporates by reference California's ACT regulation, which includes more stringent standards, out-of-State truck dealerships will have an advantage.

Moreover, small in-State trucking companies that are already operating on razor-thin profit margins will be financially strained by the sales mandate in the proposed rules. (45)

RESPONSE TO COMMENTS 221 AND 222: ACT provides no advantage to out-of-State dealerships because "[d]eficits are incurred when the on-road vehicle is sold to the ultimate purchaser." See 13 CCR 1963.1. For purposes of the adopted rules, the ultimate purchaser is defined as the person who registers the vehicle in New Jersey. See 53 N.J.R. at 601. Because deficits are generated upon sale to the ultimate purchaser in New Jersey, the physical location of the dealership that sells the vehicle has no bearing on deficit generation. Similarly, manufacturers will generate deficits for sales to New Jersey purchasers even if those sales are made through out-of-State dealerships. For these reasons there is no advantage for firms to make out-of-State purchases to offset the added costs. In terms of the impact on in-State trucking companies, the Department has already noted in the Response to Comments 190, 191, 192, 193, 194, 195, and 196, that the adopted rules do not contain a purchase mandate. Since New Jersey companies will have no reason to purchase MDHD ZEVs or NZEVs that would put them at a competitive disadvantage relative to out-of-State competitors, they will have no incentive to move operations out of New Jersey.

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223. COMMENT: Given the relative sizes of the California and New Jersey economies, it is not reasonable to assume that New Jersey's economy can absorb and cover the ZEV infrastructure development costs necessary to implement the proposed rules in the same manner and to the same extent as California's economy. (27)

RESPONSE: On a per-vehicle basis, the Department expects that costs to implement the adopted rules will be nearly identical in New Jersey and California. The adopted rules' sales requirements are based on a percentage of total MHDV sales by class in New Jersey and, as such, the costs of implementation are scaled to New Jersey's economy.

224. COMMENT: If the Department adopts the proposal to incorporate by reference California's ACT regulation, New Jersey is in danger of blindly following a current or future California governor's requirements. The proposed rules should be drafted to require the State to independently evaluate future California updates to the ACT regulation prior to a formal decision on whether to implement them in New Jersey. (31)

225. COMMENT: New Jersey differs from California in air quality and fleet composition. By ceding control of New Jersey's air emission program to California, the Department has denied New Jersey residents and local businesses the opportunity to provide input on developing a program that works for the State's unique circumstances. (1 and 72)

226. COMMENT: Under the CAA, New Jersey has two options for vehicle emissions standards: compliance with the Federal standards or require compliance with the California standards. The Department is proposing to incorporate by reference California's ACT regulation, and if adopted, the rules must have no substantive changes from the California rules. Accordingly, the Department will not be allowed to revise the rules to address concerns or circumstances

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specific to New Jersey. Moreover, future changes to ACT adopted by California will automatically be incorporated into New Jersey rules. The Department should not tie itself to a regulatory program the details of which it cannot know or control. (12)

227. COMMENT: California's ACT regulations were designed with California's unique needs and air quality conditions in mind. New Jersey's proposal to incorporate by reference California's ACT regulation does not represent an effective solution to reducing New Jersey's emissions because it does not recognize the State's unique fleet makeup, grid conditions, and local utility support. (18, 49, 75, 76, 82, 93, 95, 99, and 105)

228. COMMENT: California's ACT regulation was adopted to address very unique air quality concerns and environmental commitments codified in California law. Further, California's ACT regulation is one part of the California's efforts to electrify vehicles. The Department must understand the regulation in relation to New Jersey-specific conditions or it risks unintended consequences. (26)

229. COMMENT: The ACT regulation was designed with California's unique needs, air quality conditions, and robust financing tools in mind. New Jersey's MDHD fleet vehicle composition and operations are unique. Thus, the ACT regulation will not be an effective solution to reduce New Jersey's emissions. (45)

RESPONSE TO COMMENTS 224, 225, 226, 227, 228, AND 229: Under the CAA, New Jersey has only two choices when it comes to emission standards: the emission standards set by the EPA or those set by California. Neither the California nor the Federal emission standards account for New Jersey's unique fleet composition or air quality conditions. In fact, the Federal emissions standards must accommodate the circumstances of all of the 50 states and the District of

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Columbia; as such, they are specifically tailored for none of the states. Given that New Jersey and California share similar climate goals and air quality challenges, the Department has determined that California's ACT regulation is more in line with New Jersey's objectives than are the Federal standards.

While it is true that the adopted rules incorporate by reference a California regulation, it is inaccurate to state that the Department has no ability to revise the rules. The Department retains the ability to repeal the incorporation by reference of these rules in New Jersey in whole or in part, and/or to propose to otherwise amend the affected New Jersey rules to the extent it would not violate the CAA. See 53 N.J.R. at 601, proposed N.J.A.C. 7:27-31.4(e). Additionally, New Jersey and other states that incorporate California's ACT regulation by reference will be in regular communication with CARB about any proposed changes to the California ACT regulation.

As more thoroughly described in Response to Comments 233, 234, 235, and 236, the Department recognizes that the New Jersey and California MDHD fleets differ in makeup and usage patterns. Still, the Department determined that these differences were not significant enough to warrant the development of a new set of estimates and assumptions due, at least in part, to the flexibility built into California's ACT regulation, which places the onus on manufacturers to provide products that will satisfy the market needs of New Jersey.

The Department also recognizes that there are differences in New Jersey's incentives and infrastructure, but as addressed more thoroughly in the Response to Comments 214, 215, and 216, the Department's economic analysis included the costs of infrastructure and excluded incentive funding. Even adjusting for these differences, the Department expects that fuel

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savings and lower maintenance costs associated with ZEVs will lead to lower overall costs in the long-term.

230. COMMENT: The Department's economic analysis relied on all of the assumptions of CARB's economic analysis, only scaling for VMT. But even small adjustments to assumptions and modeling (such as fuel costs) could result in a finding of greater costs or reduced benefits. (31)

231. COMMENT: For purposes of the Department's Economic Impact analysis, which was included in the rulemaking to incorporate by reference the ACT regulation, the Department made very few adjustments to CARB's original analysis of the ACT regulation. While the Department adjusted for vehicle miles travelled and population, it failed to make adjustments for population density, travel patterns and usage, fuel costs, and vehicle ownership. Therefore, the analysis is fundamentally flawed. (12)

232. COMMENT: The Department should conduct a complete and robust State-specific economic analysis to assess the impacts of the proposed rule on New Jersey citizens and businesses to be sure the rule is tailored for New Jersey's unique challenges and opportunities rather than California. (36 and 66)

RESPONSE TO COMMENTS 230, 231, AND 232: The Department conducted an economic analysis that "describes the expected costs, revenues, and other economic impact upon governmental bodies of the State, and particularly any segments of the public proposed to be regulated." N.J.A.C. 1:30-5.1. The Department acknowledges that the Economic Impact analysis in the notice of proposal Summary relied, in large part, on California's regulatory impact

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analysis, which included a number of assumptions. Nevertheless, the Department determined that the bulk of CARB's assumptions were appropriate for New Jersey's analysis.

For example, one commenter argues that the Department failed to make fuel cost adjustments, which could result in a finding of greater costs or fewer benefits. The Department acknowledges that both fuel and electricity costs are higher in California. However, the difference between fuel costs and commercial electricity costs and, therefore, the relative energy savings per mile that accrue to a medium- or heavy-duty electric vehicle, are nearly identical in New Jersey and California. Thus, the Department confirmed that had it adjusted for these variables, the impacts on the overall Statewide costs/benefits ratio would have been minimal.

233. COMMENT: In a study by Ramboll, it was shown that New Jersey has a higher percentage of short-haul vehicles than California and that New Jersey fleets are likely to have fewer, longer trips per day than the estimate California used in its analysis. For these reasons, New Jersey should commission an independent and comprehensive analysis of the rules, which would include these factors, to provide a true assessment of the regulatory and economic impacts. (98)

234. COMMENT: Since New Jersey has a different MDHD fleet with a different operational profile and idle frequency than California, it is possible that replacing a diesel vehicle with an electric one will result in fewer NO_x emission reductions in New Jersey than in California for the same cost. (98)

235. COMMENT: The number of VMT generated by out-of-State vehicles in New Jersey is not the same as in California. Likewise, New Jersey's MDHD fleet differs from California's fleet in

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population, mix, age, replacement rates, and usage rates. Furthermore, driving and traffic patterns and vehicle utilization differ between New Jersey and California. Rather than account for these, and numerous other factors, in its analyses, New Jersey applied a linear VMT-scaling factor to CARB's regulatory calculations. The Department's simplistic analysis failed to account for relevant factors that would impact the outcome. Thus, the Department's analyses were fundamentally deficient. (27)

236. COMMENT: When the Department proposed to incorporate by reference California's ACT regulation, its analyses relied on the Standardized Regulatory Impact Analysis (SRIA) that CARB prepared for the ACT regulation, which is based on California-specific fleet composition and vehicle penetration assumptions. By relying on CARB's SRIA and the California-specific assumptions, the Department failed to meet the requirements of State law, which requires a thorough, independent analysis of the socio-economic and regulatory impacts. (18, 49, and 105)

RESPONSE TO COMMENTS 233, 234, 235, AND 236: The Department conducted a social and economic impact analysis that "describes the expected social impact of the proposed rulemaking on the public, particularly on any segments of the public proposed to be regulated, and including any proposed or expected differential impact on different segments of the public" and "describes the expected costs, revenues, and other economic impact upon governmental bodies of the State, and particularly any segments of the public proposed to be regulated." N.J.A.C. 1:30-5.1(c).

The Department acknowledges that the Economic, Environmental, and Social Impact analyses in the notice of proposal Summary relied, in large part, on California's regulatory

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impact analysis, which included a number of assumptions. As noted in the Response to Comments 230, 231, and 232, the Department made adjustments to only those variables that it expected would have a significant bearing on the socio-economic impacts of the adopted rules' implementation in New Jersey.

The Department considered all of the assumptions made by CARB, and determined that CARB's assumptions concerning fleet make-up and usage patterns were sufficiently reflective of New Jersey's conditions that development of a new set of estimates and assumptions for New Jersey's analysis was not needed. Specifically, and as noted by CARB in its Final Statement of Reasons, California's ACT regulation contains a great deal of flexibility, and ultimately the adopted rules place the onus on manufacturers to provide products that will satisfy the market needs of New Jersey. See CARB FSOR, p. 100. Thus, even if the MHDV ZEV market in New Jersey ultimately evolves somewhat differently than the MDHD ZEV market in California, the flexibility provisions inherent in the adopted rules pursuant to the credit/deficit system ensure that ultimately the final benefits of the adopted rules will outweigh the final costs.

237. COMMENT: When the Department proposed to incorporate by reference California's ACT regulation, its analyses relied on CARB's analyses, and, thus, assumed that future conditions in New Jersey would match future conditions in California. However, there are key potential differences, such as per vehicle marginal costs, financial resources available for incentive programs, fuel and electricity prices, and the mix of battery-electric and hydrogen fuel-cell ZEV trucks. Thus, the Department's analyses were fundamentally deficient. (27)

RESPONSE: Any prediction of future conditions will be inaccurate to some degree. The Department made projections about the impacts of the adopted rules based upon the best

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available information. Changes in fuel prices are driven by global commodity markets that can affect both California and New Jersey, and changes in electricity prices are based on fuel prices, grid utilization, renewable energy, and other factors that are anticipated to be similar in New Jersey and California. Thus, while it is true that fuel and electricity costs will change and continue to differ between the states, the absolute per-mile fuel cost savings from an electric vehicle in New Jersey will likely continue to be approximately equal to the savings from a comparable vehicle in California.

Likewise, the per-vehicle marginal costs and the mix of battery-electric and hydrogen fuel cell ZEV trucks will be similar in California and New Jersey, since these factors are driven by national and global market trends. With respect to concerns about the differences in California's and New Jersey's incentive programs, please see the Response to Comment 214, 215, and 216. With funding available from electric utilities, the BPU, the EDA, and the Department, New Jersey will have adequate incentive resources in place by the time manufacturers incur deficits under the adopted rules.

238. COMMENT: Adopting another state's program will not address New Jersey's unique needs and circumstances. For example, miles per charge are reduced by nearly half in cold weather. But New Jersey cannot change the program to accommodate New Jersey-specific issues if it incorporates by reference California's ACT regulation. (62)

RESPONSE: For a discussion of the availability of suitable ZEV models in New Jersey, please see the Response to Comments 122, 123, 124, 125, and 126. Broadly, the adopted rules provide a market incentive for manufacturers to produce ZEVs that customers in New Jersey will wish to buy. Thus, to the extent there is a concern about the impact of cold weather in New Jersey,

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manufacturers may meet up to 50 percent of their deficit obligation in each category with NZEVs, which may include a fossil-fuel power source, as well as a battery. Due to the availability of heat from the fossil fuel power source, NZEVs are generally able to operate in cold weather without restriction and may prove to be more popular in New Jersey than in California. Similarly, hydrogen fuel cell vehicle operation is relatively unaffected by cold weather. As battery capacity and vehicle range increase with technology improvements, BEVs are expected to experience less range loss as a percent of total range.

239. COMMENT: There are meteorological differences between California and New Jersey that were not factored into the Environmental and Economic Impact analyses. Accordingly, the Department should not have assumed that the vehicle emission reductions in California will yield precisely the same air quality benefits in New Jersey by simply scaling for VMT. (27)

240. COMMENT: A study conducted by Ramboll raises concerns about the air quality benefits that could be achieved if New Jersey incorporates by reference California's ACT regulation. Since New Jersey's nonattainment areas are significantly influenced by the air quality and emissions in neighboring states, California's ACT regulation may have a less meaningful impact in New Jersey than it would in California. Similarly, California's mountain ranges create geographic air quality challenges that New Jersey does not share. (31)

RESPONSE TO COMMENTS 239 AND 240: The Department did not assume that the adopted rules will yield precisely the same air quality benefits in New Jersey, scaled only for VMT. Since a primary factor in the level of human exposure to direct PM_{2.5} emissions is the distance between emission sources and human receptors, the Department adjusted the California air

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quality impact values using the USDOT proximity to roadways metric for California and New Jersey in addition to the human population scaling factors.

The Department is aware of the meteorological differences between California and New Jersey, primarily the increased stagnation of air masses, that can significantly affect ambient air concentrations, especially for criteria pollutants that form from chemical reactions of precursors over time. The Department specifically did not quantitatively include the significant additional ACT benefits that would accrue from reductions in ozone and secondary or indirect PM_{2.5} that would be affected by the differences in meteorology between California and New Jersey.

241. COMMENT: Experts from Ramboll Consulting have evaluated whether New Jersey's VMT scaling methodology would yield a reasonable cost-benefit assessment. Ramboll's analysis shows that such a VMT-based scaling methodology cannot yield a reasonable cost-benefit assessment. One of the three key reasons supporting Ramboll's assessment was that trucks in California idle (when assessed on an hours basis) two-times more than trucks in New Jersey, meaning that New Jersey will see only one-half of the greenhouse gas reductions attributable to the elimination of idle emissions from ZEV trucks. (27)

RESPONSE: The Department reviewed the commenter's submission, including the analysis by Ramboll, and did not find the connection between the commenter's assertion of lower greenhouse gas emission reductions in New Jersey and Ramboll's analysis. With regard to idling emissions, Ramboll's analysis did indicate that "Truck electrification is expected to reduce all tailpipe emissions, including idle emissions. Lower per vehicle extended idle activity estimates for combination unit long-haul trucks in New Jersey could result in lower per vehicle

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NO_x emission reductions in New Jersey compared to California.” Thus, the Ramboll analysis of idling time in trucks in New Jersey versus California was focused on NO_x emissions, not greenhouse gas emissions. Further, the Department understood the Ramboll analysis to attribute the extended engine idling time from California trucks to the differing modeling platforms used by New Jersey and California. Specifically, California generally uses the EMFAC2017 emissions model to calculate benefits for emission inventories, while New Jersey generally uses the MOVES3 emission model. Per Ramboll’s analysis, “New Jersey extended idle hours for combination unit long-haul trucks were estimated to be 1.3 hours/day-vehicle. In California’s EMFAC2017 model, those trucks which most closely correspond to combination unit long-haul trucks (that is, T7 and T6 California International Registration Plan [CAIRP], Neighboring Out-of-state [NOOS], Out-of-state [OOS], and Tractors) have an average extended idle hours per vehicle of 2.4 hours/day-vehicle based on a calendar year 2028 EMFAC2017 emission inventory. The California estimate is 1.1 hours/day-vehicle longer than the New Jersey estimates. Some of this additional idle time could be a result of the different extended idle definitions in MOVES and EMFAC.” Thus, Ramboll’s conclusion about the potential impact of New Jersey using the EMFAC2017 model was that the analysis had the potential to overestimate the idling time of a subset of vehicles (combination long-haul trucks), resulting in a potential overestimate of NO_x emission reductions for that small subset of vehicles. Or, Ramboll acknowledges, it is also possible that there would be no difference in the idling time, because both models account for idling time but use different definitions. For these reasons, the Department rejects the concern that the Department’s methodology failed to yield a reasonable cost-benefit analysis since both models comprehensively model idling emissions.

242. COMMENT: California's ACT regulation, which the Department proposed to incorporate by reference, is the first of three related regulations, including an Omnibus Ultra-Low NO_x regulation and an Advanced Clean Fleet regulation that California plans to finalize by the end of 2021. Though New Jersey currently proposes to incorporate by reference only the ACT regulation, the Omnibus Ultra-Low NO_x and Advanced Clean Fleet regulations will also soon be required under New Jersey regulations. These regulations will cause significant additional negative economic and environmental consequences in the State. (45, 49, 75, 76, 82, 93, 95, and 99)

243. COMMENT: The Department's rulemaking includes both California's Advanced Clean Trucks regulation, which mandates the sales of ZEVs, and California's Omnibus Low-NO_x Rule, which allows the sale of engines meeting only ultra-low NO_x emission standards and a wide range of other extremely stringent additional requirement. New Jersey is correct in its goals for climate change and clean energy, but adoption of the California rules would be premature and misdirected. (1)

244. COMMENT: The Department's adoption of California's ACT regulation causes serious concerns about the prospect of a future rule that would include a purchase mandate for ZEV or a retirement mandate for existing construction equipment. For small and mid-sized construction firms, fleet replacement is cost-prohibitive, and a regulatory mandate (if proposed in the future) would severely impact them financially. The costly equipment that members of the construction industry purchase to deliver public infrastructure upgrades is purchased with an expectation of a long useful life and some value after retirement. (47)

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245. COMMENT: California's ACT regulation is part of a suite of additional rules that the California Air Resources Board (CARB) has adopted, or plans to adopt, to regulate the emissions from MDHD on-highway vehicles and engines. If the Department adopts the ACT rule, New Jersey will be obligated to opt-in to the entire suite of California's rules. Collectively, these rules raise a number of concerns about feasibility, cost, and implementability. Given the target model year of 2025 for the proposed ACT rule, the Department can defer action until the 2022 calendar year in order to make a full assessment of the wide-ranging impacts that will result from the Department's adoption of all of CARB's other rules concerning emissions from MDHD vehicles and engines. (27)

RESPONSE TO COMMENTS 242, 243, 244, AND 245: These comments are beyond the scope of this rulemaking to the extent that they suggest that the Department should consider the costs of additional California rules that the Department is not currently proposing to incorporate by reference. While it is correct that the Department signaled its intent to consider incorporating other complementary California regulations into its rules when it held stakeholder meetings in September, the Department has not proposed to incorporate those complementary rules. In fact, California has not yet proposed the Advanced Clean Fleet regulation. Should the Department propose to adopt any of the complementary California regulations, the Department will perform economic and environmental analyses specific to those rulemakings.

Sufficiency of Impact Analyses

246. COMMENT: Until the Department analyzes the State-specific impacts of fleet turnover from adopting California's ACT regulation and the ensuing impact on air quality (and take comment on its findings), the Department is without the legal authority to finalize adoption of

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California's ACT regulation. Specifically, the Department did not consider: (1) the lifecycle emissions from a battery power vehicle, including battery material sourcing, battery recharging, and end-of-life battery disposal; (2) air quality issues unique to the State, including upwind sources, leakage, and attainment needs; the impact on fleet turnover if the proposed rule makes all trucks more expensive. (31)

247. COMMENT: The Department has not fully considered the potential negative economic impacts associated with California's ACT regulation. Specifically, the Department's economic impact analysis was incomplete and ignored significant costs, including, but not limited to, annual miles driven, costs associated with battery replacement and disposal at end-of-life, financing, recharging time, the impact on truck utilization, infrastructure costs to ratepayers, increased traffic congestion, and lost revenue from fuel taxes. (31)

248. COMMENT: New Jersey law requires that any regulatory proposal like the one at issue must include "a description of the expected socio-economic impacts of the rule, a regulatory flexibility analysis, ...and a job impact statement which shall include an assessment of the number of jobs to be generated or lost if the proposed rule takes effect." N.J.S.A. 52:14B-4(a)(2). The required regulatory flexibility analysis needs to include an assessment of the initial capital costs and annual costs that will result from the proposed rule, along with an analysis of how the proposed rule has been designed to minimize any adverse economic impacts. N.J.S.A. 52:14B-19. The Department has failed to undertake and complete the mandated socio-economic analyses relating to the proposed adoption of California's ACT regulation in New Jersey.

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Instead of doing any analysis of its own regarding any of the potential socio-economic impacts from the implementation of the ACT Rule in New Jersey, the Department has relied wholly and exclusively on the Standardized Regulatory Impact Analysis (SRIA) that CARB prepared for the ACT Program as adopted in California. In that regard, the Department also has relied on all of the California-specific assumptions that went into CARB's SRIA. The sum and substance of the Department's analysis was simply to apply a linear VMT-based scaling factor to all of the relevant cost-benefit calculations contained in the SRIA that CARB prepared for its California-tailored ACT regulation. That really amounts to no actual analysis at all. The Department has simply assumed – without undertaking any critical review or independent verification efforts whatsoever – that the methods and conclusions set forth in CARB's SRIA are 100 percent correct and directly transferable to New Jersey. That type of unquestioning wholesale reliance on, and deference to, the regulatory analysis that another state prepared for its own purposes is inherently deficient as the basis for a valid rulemaking. The Department's rudimentary VMT-based scaling analysis is fundamentally deficient because it fails to account for a number of factors and differences between New Jersey and California, including, but not limited to, the population and mix of MDHD vehicles, replacement rates of certain MDHD market segments, out-of-State vehicles, power grids, financial resources, and pollution levels. As a result, that simplistic analysis cannot and does not satisfy the requirements of New Jersey's Administrative Procedures Act. VMT-based scaling of CARB's SRIA, without more, cannot amount to a sufficient rulemaking record for implementing the ACT Program in New Jersey. (27)

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249. COMMENT: To compare policies aimed at reducing greenhouse gas emissions, analysts often develop a “cost of abatement,” which is a calculation of the cost of the policy divided by the greenhouse gas emission reductions achieved by the policy. It is normally expressed in a dollars per ton figure. The Department should develop and present to the public its estimate of the cost per ton of greenhouse gas abatement through the proposed ACT regulation (on a life-cycle basis), as compared to the same cost of abatement of investing in more fuel-efficient diesel, biodiesel, renewable diesel, propane, and natural gas trucks. (31)

250. COMMENT: Since the Department conducted no independent analysis of the actual amount of air pollution reductions (in tons-per-day) that will result from implementing California’s ACT regulation in New Jersey, or of any of the actual associated costs in New Jersey, there is no prospect that the Department’s rulemaking record in this case could withstand judicial scrutiny. (27)

251. COMMENT: New Jersey should commission an independent and comprehensive analysis of the rules that would provide a true assessment of the rules’ economic and regulatory impacts. (98)

RESPONSE TO COMMENTS 246, 247, 248, 249, 250, AND 251: Pursuant to the requirements of the APA, the Department conducted a social and economic impact analysis that “describes the expected social impact of the proposed rulemaking on the public, particularly on any segments of the public proposed to be regulated, and including any proposed or expected differential impact on different segments of the public” and “describes the expected costs, revenues, and other economic impact upon governmental bodies of the State, and particularly any segments of the public proposed to be regulated.” N.J.A.C. 1:30-5.1(c). It is true that the Department

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relied on the regulatory analysis and a number of the assumptions made by CARB. However, the Department did not do so indiscriminately. As set forth in greater detail in the Responses to Comments 105 through 109 and 158 through 245, the Department reviewed CARB's robust analysis and assumptions, and adjusted its analysis for New Jersey, based upon the best information available. As required, the Department has provided commenters with the opportunity to provide feedback and critiques of its analysis. Though some commenters have indicated that the Department's analyses underestimated costs and/or ignored relevant factors, other commenters have indicated that the Department underestimated the benefits based upon other factors. The Department carefully considered the feedback and critiques from all commenters, as is the purpose of a comment period, and is satisfied that the analyses conducted by the Department provided a reasonable forecast of the costs and benefits.

Adopt, but Revise and/or Do More to Mitigate Climate Change and Air Pollution

252. COMMENT: The Department should ban dirty trucks for a variety of reasons, including improvements to air quality, reductions in negative health impacts generally, reductions in negative health impacts for overburdened communities more specifically, and/or reductions in negative environmental impacts. (103)

253. COMMENT: The Department should reduce pollution from all trucks for a variety of reasons, including improvements to air quality, reductions in negative health impacts generally, reductions in negative health impacts for overburdened communities, and/or reductions in negative environmental consequences. (102)

254. COMMENT: Diesel fumes lead to high ground level ozone and that leads to costly health care bills. Only electric-powered trucks should be used. (109)

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RESPONSE TO COMMENTS 252, 253, AND 254: 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, PM_{2.5}, and black carbon, a component of PM_{2.5}, from MDHD trucks in the State. See 53 N.J.R. at 599. However, the adopted rules do not ban the ownership or operation of any particular vehicles in the State. The adopted rules are intended to accelerate the deployment of MDHD ZEVs in the State by requiring a percentage of a manufacturer's new MDHD vehicle sales to an ultimate purchaser in New Jersey to be ZEVs. As discussed in the Response to Comments 105, 106, 107, 108, and 109, the sales percentages and timelines in the adopted rules are feasible based upon the flexibility built into the rules and the existing market for ZEVs.

255. COMMENT: There are potential opportunities for continued study of health impacts. Continued study may aid in enhancing positive health impacts and mitigating of any potential negative health impacts as the Department implements the proposed rules and other related regulations. The Department should identify opportunities to prioritize health and health equity as a driver of implementation, monitor and evaluate health impacts of the proposed rules, and conduct additional studies on overall impacts of the program on the social determinants of health. The Department should use Health Impact Assessments as a way to make health part of the decision-making process in adopting the proposed rule. The Department should also coordinate with HEALTHY NJ 2030, in which the Department of Health launches a new set of science-based, 10-year State objectives with the goal of improving the health of all New Jerseyans. (37)

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RESPONSE: The Department welcomes continued third-party study of the health benefits of electrifying the transportation sector. However, New Jersey has only two choices when it comes to the adoption of emission standards: the emission standards set by the EPA or those set by California. Having estimated the health benefits from California's ACT regulation to be greater than those from the Federal standard, the Department chose to adopt California's standard. The Department's authority to amend the adopted rules is limited by the requirements of the CAA. See 53 N.J.R. at 601, proposed N.J.A.C. 7:27-31.4(e).

256. COMMENT: The State of New Jersey should do everything possible to ensure clean air, including the eventual requirement of electric trucks. The timeline should be one that is both feasible for the companies and consistent with the science. The requirement should be implemented sooner rather than later. (38)

257. COMMENT: The Department should adopt California's ACT regulation, but should take additional actions, including modernizing school and transit bus fleets, moving the timeline for fossil-free to 2030, setting higher miles-per-gallon requirements, upgrading the rail systems, not limiting the rules to electric vehicles, and offering incentives to remove older and/or damaged vehicles from the road. (107)

258. COMMENT: The Department should adopt California's ACT regulation, but provide financial incentives, as well as education to trucking companies on the benefits of electric vehicles. (108)

RESPONSE TO COMMENTS 256, 257, AND 258: The Department acknowledges the commenters' support of the rules. The Department notes that the mandates of the adopted rules will apply to manufacturers of school buses sold in the State in the event that a

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manufacturer meets the 500 annual sales volume threshold. As noted in the Response to Comments 140 through 147, the Department and other State agencies are coordinating their efforts to ensure policies, including incentives, are in place to facilitate the transition to ZEVs. Additionally, as noted in the Response to Comment 77 through 85, although battery electric vehicles are the most common ZEV technology operating today, the adopted rules do not exclude other emerging technologies, as long as they meet the emission standard for a ZEV or NZEV. The commenters' remaining suggestions are beyond the scope of this rulemaking.

259. COMMENT: The State should immediately require any new cars sold in this State to be able to get 100 miles on a gallon of gasoline. This is important and needs implementation right now. (74)

RESPONSE: The adopted rules are intended to accelerate the deployment of MDHD ZEVs in the State by requiring a percentage of a manufacturer's new MDHD vehicle sales to an ultimate purchaser in New Jersey to be ZEVs. Given that the adopted rules are not applicable to light-duty vehicles, the comment is beyond the scope of this rulemaking.

260. COMMENT: The Department should require 100 percent clean vehicles by 2035. The proposed rules leave between 25 percent to 60 percent dirty trucks on the road by 2035 depending on the truck vehicle class. This will result in continued pollution of the environment with huge quantities of greenhouse gas emissions, as well as particulate and other gases hazardous to the residents and children of New Jersey, especially along heavy truck routes. An updated rulemaking should include any necessary incentives and regulations to achieve a minimum of 80 percent of the quantity of new motor vehicle sales of a vehicle manufacturer that are ZEVs in 2027 and 100 percent beginning in 2035 and every year following. (23)

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RESPONSE: As noted in the Response to Comments 224, 225, 226, 227, 228, and 229, New Jersey has only two choices when it comes to emission standards: the emission standards set by EPA or those set by California. The Department chose California's emission standards for MDHD vehicles because they will provide greater emission reductions than the EPA's current emission standards.

261. COMMENT: California's ACT regulation excludes truck manufacturers that sell fewer than 500 covered trucks per year (in California), as would the New Jersey Advanced Clean Truck Program rules. Yet, the population of New Jersey is far smaller than that of California. It follows that to avoid being lax and avoid substantial pollution, the New Jersey Advanced Clean Truck Program rules' exclusion should be pro-rated to account for the difference in population. (23)

RESPONSE: The Department does not believe the sales volume should be pro-rated in this case. The purpose of the low-volume exemption is to ensure that only the largest manufacturers are subject to the rules. Thus, the ratio of State population to State sales is irrelevant.

262. COMMENT: Though California's ACT regulation is the only avenue available to New Jersey regulators in the short term, the rules could be improved by requiring that older vehicles be permanently removed from service on a one-to-one basis when a new ZEV is purchased. Additionally, the new regulations should allow for other zero-emission technologies, such as hydrogen fuel cells and not just battery electric. (6)

263. COMMENT: The Department should adopt the proposed rules. The Department should also pursue other policy-related proposals that aim to restore a more constructive and sustainable dynamic between private enterprise and the public good by measuring and

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accounting for the cost and risk of negative externalities that are the byproducts of complex economic and policy system design, redesigning policies and rules in ways that steer economic investment and activity away from an unsustainable or harmful business-as-usual path and toward one in which more sustainable investment and innovation is incentivized and rewarded, and striking an appropriate balance between ambitiously meeting a growing imperative for large-scale change while realistically accounting for the time and cost involved for incumbent business interests to adapt in ways that will minimize the disruptive impact on their respective stakeholders in the near-term. (53)

264. COMMENT: New Jersey is a major transportation corridor with significant port facilities, which means that New Jersey communities are burdened not only by greenhouse gases, but also by criteria pollutants with severe detrimental public health effects. Despite making up only around five percent of New Jersey's vehicles, heavy-duty vehicles are responsible for over 40 percent of NO_x and 60 percent of SO₂ pollution from the transportation sector. Multiple measures are needed to decarbonize the transportation sector and strengthen the ability of businesses to operate sustainably over the long term. Many customers support ZEV shipping policies. However, market failures have impeded progress. The Department should adopt California's ACT regulation, which will be essential to driving the transition to decarbonized transportation alongside other policies, to ensure zero-emission trucks are deployed in the State at a pace and scale that the private sector cannot achieve on its own. (13)

265. COMMENT: In addition to adopting California's ACT regulation, the State should also work to increase the number of electric charging stations and work with environmental justice communities to make sure the State is keeping communities clean. (16)

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266. COMMENT: The State should support regional and Federal efforts to accelerate ZEVs and charging infrastructure, low carbon fuels, and more fuel-efficient vehicles in order to eliminate some of the barriers and encourage the expansion of electrification. Additionally, the State should provide rebates and incentives for the purchase of ZEV trucks. (37)

267. COMMENT: The adoption of California's ACT regulation alone will be insufficient to achieve New Jersey's ambitious emission reduction targets. To establish a conducive ecosystem that allows the ACT rule to achieve its desired scale of impact, the Department should also adopt fleet purchase requirements for key "beachhead" segments; create a ramp up to the rules through sustained and sufficient investments in incentives; coordinate with other State agencies to provide significant funding for charging equipment, infrastructure, and hydrogen fueling, as well as rate design; and join the Transportation and Climate Initiative Program to improve the operating economics for zero-emission fleets. (42, 51, 59, 60, and 90)

268. COMMENT: The proposed rules are just the first step for New Jersey in reaching the State's climate goals set forth in the Global Warming Response Act. The proposed rules alone will not reach the climate goals set forth in the Global Warming Response Act. Complementary policies must be implemented to meet climate reduction goals, as well as advance health and environmental equity and create family sustaining careers. (68)

269. COMMENT: Accelerating New Jersey's transition to zero-emission trucks is bolstered by the suite of other policy efforts underway at the Department under the Protecting Against Climate Threats (PACT) process including the Low NO_x Omnibus rules and others, as well as efforts being undertaken by other State agencies like the Economic Development Authority and the BPU. This shows a comprehensive effort by the Murphy administration, the New Jersey

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Legislature, and the State's executive agencies to electrify all forms of transportation. As this work progresses, the Department should continue to work with these agencies and the Office of Climate Action to achieve the State's clean energy goals on a rapid timeline. (64)

270. COMMENT: The proposed rules alone will be insufficient to achieve the State's ambitious emission reduction targets. A comprehensive suite of policies and investments are also required to provide clear directional signals to vehicle buyers and manufacturers. Additional actions that need to be taken in concert with this rulemaking include permitting the direct sales of electric vehicles in New Jersey (to bypass the dealer model of car sales), expanding the New Jersey Zero-Emission Incentive Program pilot, joining the Transportation Climate Initiative Program to improve the operating economics for zero-emission fleets, and coordinating with State agencies through the Partnership to Plug In to ensure that New Jersey's public agencies and utilities are prepared to rapidly scale up ZEV infrastructure. (67)

271. COMMENT: In addition to adopting California's ACT regulation, the Department must work with other State agencies to ensure that the buildout of MDHD vehicle charging infrastructure is rapid. The Department should also implement additional rules to address harmful emissions from New Jersey's MDHD vehicle fleet—such as the Advanced Clean Fleets and Low NO_x Omnibus rules—as quickly as possible as well. (25)

272. COMMENT: To ensure that the proposed rules achieve their full desired effect, New Jersey should modify existing regulations to allow for the operation of hydrogen fuel cell electric vehicles (FCEVs) on appropriate bridges and/or tunnels in the region similar to the footprint allowed for CNG vehicles. (51)

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273. COMMENT: Adoption of California's ACT regulation will be a key first step. However, a suite of policies is needed to address some of the primary challenges to fleet electrification. The Department needs to implement policies that address the limited EV model availability, especially in the MHDV sector; and lack of control over leased, rented, and/or up/downstream transportation. Adoption of additional policies that accelerate MDHD electrification alongside the ACT regulation can help New Jersey realize the benefits of a clean, energy efficient transportation system even sooner. The Department and State policymakers should also consider incorporation of the California Advanced Clean Fleets rule, the Low NO_x Omnibus rule, and a broad array of ZEV incentives and support for charging infrastructure, which are particularly lacking for MDHDs. (46 and 80)

274. COMMENT: The Department should not delay adoption of the ACT regulation but simultaneously increase the pace of adoption of a comprehensive suite of CARB and South Coast Air Quality Management District (SCAQMD) rulemakings to begin drastically cutting the CO₂ and local air toxic pollution from diesel trucks in New Jersey. The Department should take up consideration of other CARB and SCAQMD rules as quickly as possible. The Department should specifically consider adopting the SCAQMD Indirect Source Rule, the low carbon fuel standard, and California utility fleet charging programs like the Charge-Ready and Fleet-Ready for consideration and adoption. If the Department adopts the ACT regulation and other related rulemakings that are intended to reduce and then eliminate CO₂ and local air pollution emitted by MDHD diesel trucks, then New Jersey can become the East coast center of the battery electric truck industry and achieve substantial reduction in MDHD diesel truck emissions. These

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rulemakings, and other actions, are necessary to stop and reverse the worst effects of climate change. (40)

275. COMMENT: California's ACT regulation will not solve climate change or air pollution in the State. The Department should propose the three other rules previously "stakeholdered," as well. (71)

276. COMMENT: The proposed rules should be adopted. It is important that New Jersey also has complementary policies to make sure that the State achieves its goals of reducing greenhouse gases and other pollutants. (61)

277. COMMENT: The proposed rules should be seen only as a first step. The State should promulgate an advanced clean train rule in the future. (81)

278. COMMENT: The Department should adopt California's ACT regulation. Additionally, the Department should adopt rules to establish zero-emission zones, and rules specific to emissions from cargo handling equipment, the harbor craft, and warehouses. (28)

279. COMMENT: Electric trucks can deliver good union jobs, but the Department must ensure that the proposed rules preserve existing jobs and create new ones for displaced workers. To ensure that the proposed rules do not result in outsourced vehicle manufacturing, New Jersey should pursue complementary policies to accelerate the development of a domestic and regional low carbon manufacturing supply chain. (92)

280. COMMENT: To enhance the economics of zero-emission MDHD vehicles by reducing fueling costs relative to a conventional diesel vehicle, the Department should adopt complementary programs, like commercial electric vehicle rate design and a clean fuel standard. (43)

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281. COMMENT: The proposed rules are a critical starting point, but they are not sufficient to achieve the electrification levels required. In addition to the requirements of California's ACT regulation, the Department should develop a second level of goal-setting organized around key vehicle sub-groups. For example, the Class 4-8 group includes school buses, transit buses, drayage vehicles, refuse trucks, short-haul delivery vehicles, and long-haul delivery vehicles. Each of these sub-segments will electrify at different rates and will require different policies and programs to stimulate consumer interest. Further, it will be crucial to proactively protect against cybersecurity threats to networked MDHD vehicle chargers as the MDHD ZEV market grows. This will likely require collaboration among standards organizations, State agencies, the utilities, MDHD vehicle fleet operators, and especially the vehicle and charging equipment vendors. (97)

282. COMMENT: The Department should adopt California's mandates; however, much more is needed. The State needs to stop relying on fossil fuels, reduce idling, and address increasing local truck traffic. Electric vehicles will eventually have the capability to provide power back to the grid through bidirectional charging. The proposed rules do not consider this technological capability. New Jersey should be the first to establish a standard that also takes into account preventative cyber security measures. (19)

RESPONSE TO COMMENTS 262 THROUGH 282: The incorporation by reference of California's ACT regulation is one part of a comprehensive strategy to lower transportation emissions in the State. 53 N.J.R. at 589. As noted in the Response to Comments 131, 132, 133, 134, and 135, neither a single rulemaking, nor a single State agency, can address every aspect of the State's needs as it works to electrify the transportation sector. Thus, the Department and other State

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agencies must continue to work collaboratively across economic sectors, levels of government, and through public private ventures to address ZEV charging infrastructure challenges and to reduce the State's overall emissions.

As discussed in the Responses to Comments 140 through 147, the Department recognizes that the build-out of the infrastructure for ZEVs is important to the success of an expanding ZEV market. Accordingly, the Department and other State agencies are coordinating their efforts to ensure policies and programs are in place to facilitate the transition to ZEVs including identifying a role for utilities in medium-and heavy-duty make-ready infrastructure and designing cost competitive and flexible rates.

The Department has "stakeholdered" a number of the complementary policies, such as the Low NO_x Omnibus rule and a Cargo Handling Equipment rule, that were mentioned elsewhere in the comments. And while the Department will continue to evaluate a range of other rules and policies, including those suggested by the commenters, a discussion of those supplemental and complementary rules and programs is beyond the scope of this rulemaking.

283. COMMENT: It is important that the proposed rules are not so rigid or time locked that the State cannot accelerate the transition to electricity more rapidly if technology or other conditions change. (68)

284. COMMENT: Once adopted, California's ACT regulation should be reassessed every five years for potential increases in electrification rates if sufficient electrified options are available in the MDHD vehicle segments. Eventually, the ACT regulation should establish sales mandate percentages for model years after 2035. Further, the Department should couple the high-level goals of climate change mitigation and public health improvement with more segment-specific

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market development policies and programs. The State should have a strategic priority to ensure that the new charging infrastructure needed by the MDHD vehicle segment can be provided in a way that avoids adoption constraints and minimizes costs, including the use of advanced technologies, such as energy storage and cyber-security protection measures. (97)

RESPONSE TO COMMENTS 283 AND 284: The Department acknowledges the commenters' support of the rules. The Department notes that New Jersey has only two choices when it comes to emission standards: the emission standards set by the EPA or those set by California. After careful analysis, the Department has determined that California's ACT regulation is more in line with New Jersey's objectives, than are the Federal standards. The Department's authority to amend the adopted rules is limited by the requirements of the CAA. See 53 N.J.R. at 601, proposed N.J.A.C. 7:27-31.4(e). Nonetheless, New Jersey and other states that adopt California's ACT regulation by reference will be in regular communication with CARB about any proposed changes, including those concerning changes in the stringency of sales requirements that would be technologically and economically prudent and reasonable.

285. COMMENT: There is precedent for public funding for the capital expenses of all public transportation providers. On a smaller scale, in 2012 when a requirement to retrofit older buses with diesel particulate filters was adopted, the State of New Jersey funded the filters for all operators. On a larger scale, through the State's Bus Allocation Program, NJ Transit purchases buses for both itself and for private bus companies. If NJ Transit is now purchasing electric buses rather than diesel buses for itself, what does it plan for the Bus Allocation Program? Operators of commuter bus lines are able to sustain those routes only if the farebox revenues exceed their costs. The cost of an all-electric motor coach is about twice as much as

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an equivalent diesel bus. Given the range issues, operators will likely also need to expand their fleets. Electric charging stations can cost between \$80,000 and \$150,000 for each station. That does not include the cost to run the power to them, which is several thousand dollars, provided the facility has enough power to supply the charging stations with the proper voltage and amperage. Not only are charging stations and ports expensive, but they require reallocation of existing space used for other essential purposes. Funding will need to be made available to sustain the program, so that private providers of public transportation can continue to operate in whatever new framework is adopted. Monies from the Regional Greenhouse Gas Initiative would be insufficient to fund such a significant purchase of electric buses and the associated infrastructure. Any transition to electric buses must be over a long period of time to allow for the planning, funding, and building of the necessary systems, addressing potential grid issues, availability of equipment and trained technicians, and the gradual elimination of clean diesel buses over time as the State ramp's up to electric buses. A rapid move to the electrification of buses, without appropriate financial assistance, will make operations untenable. (44)

RESPONSE: As discussed in the notice of proposal Summary, 53 N.J.R. at 590, certain vehicles are excluded from the deficit and credit generation requirements under the adopted rules. Specifically, California's ACT regulation defines an excluded bus to include most full-size transit and intercity buses. See 13 CCR 1963(c)(11). Thus, specific concerns related to transit buses are beyond the scope of this rulemaking. However, the Department notes that separate legislation establishes requirements for NJ Transit to move toward zero-emission bus purchases beginning in 2024. See N.J.S.A. 48:25-3a(9)(a). To that end, NJ Transit has released a roadmap to a 100 percent zero-emission bus fleet. <https://www.njtransit.com/zero-emission-buses>. Thus, the

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commenter is encouraged to engage with NJ Transit on its plans for electrification of New Jersey's transit bus system.

286. COMMENT: New Jersey needs electric buses in addition to zero-emission trucks. The exhaust emitted by local and intrastate buses have contributed to health issues. (101)

RESPONSE: The Department acknowledges the commenter's support for the rules. The adopted rules do include a provision for buses, but as noted in the Response to Comment 285, certain buses, such as full-size transit buses, are excluded from this rulemaking. Though beyond the scope of this rulemaking, separate legislation establishes requirements for NJ Transit to move toward zero-emission bus purchases beginning in 2024. See N.J.S.A. 48:25-3a(9)(a).

Adopt, But Do More to Mitigate Air Pollution in Overburdened Communities

287. COMMENT: Adopting the proposed rules is necessary to reduce emissions and protect overburdened communities, but these rules would ultimately result in only a small percentage of zero-emission trucks on the road in 2035. The Department must do more. The Department must move forward with additional rules, such as the Low-NO_x Omnibus rule and Advanced Clean Fleets rule to further move New Jersey toward zero-emissions. (41)

288. COMMENT: The proposed rules promise to make substantive emission reductions in the MDHD sector. But much more needs to be done to reduce emissions in the New Jersey communities that disproportionately bear the negative impacts of the region's goods-movement industry. The Department should move swiftly to adopt California's ACT regulation while pursuing further emission reductions at Port Newark and goods-movement centers throughout the State through additional policies. Specifically, the Department must continue

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to reduce emissions from MDHD vehicles through adoption of California's Low NO_x Omnibus and Fleet Purchase rules. The Department should adopt fleet purchase mandates to direct early fleet electrification in the communities most overburdened by diesel truck emissions. M.J. Bradley & Associates estimates that moving towards 100 percent zero-emission MDHD vehicle sales by 2035-2040, together with the proposed rules, the Heavy-Duty Omnibus Low-NO_x Rule, and a cleaner electricity grid, would lower MHDV NO_x emissions by 97 percent and lower PM emissions by 86 percent in New Jersey by 2050. This three-pronged approach would have significant public health impacts, avoiding 325 hospital visits and 303 premature deaths, which is greater than the projected benefits of the ACT regulation and the Low NO_x Omnibus rules combined. The Department should adopt other California rules, such as the Advanced Clean Fleets rule, California's forthcoming regulations that further limit emissions from transport refrigeration units, regulations to lower emissions from cargo-handling equipment, CARB's Ocean-Going Vessels at Berth regulations, CARB's Commercial Harbor Craft regulations, and a measure like the Warehouse Indirect Source Rule, as adopted by the SCAQMD. Additionally, the Department should explore the implementation of zero-emission zones as a potential framework for reducing dangerous emissions generated by the warehousing and distribution functions of Port Newark. The Department should also take efforts to reduce air emissions from locomotives and railyards, whose emissions have a significant public-health impact given their presence inside residential areas like those of the Ironbound. (87)

289. COMMENT: State policy must include mandatory emissions reductions particularly in overburdened people of color communities. Allowing electrification to be powered by fossil fuel plants, which are almost universally located in these communities, would perpetuate the

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disparate burdens and harms to these communities. Electrification and charging stations must be powered by 100 percent renewable energy. (5)

290. COMMENT: The Department's adoption of California's ACT regulation is only a first step. The ACT regulation will result in an electrification of approximately 15 percent of all trucks on the road in New Jersey. To meet the State's climate and clean air goals, every truck on the road needs to be a zero-emission vehicle. The Department should take the lead from impacted communities on what additional policies look like to ensure and prioritize a reduction of harmful truck-related air pollution in environmental justice communities. (69)

291. COMMENT: As the proposed rules move forward, it is imperative the State works on increasing the number of electric charging stations throughout New Jersey. The State should also explore complementary policies that help alleviate pollution burdens through implementing additional "zero-emission zones," further electrify heavy-duty machinery near ports and other industrial areas and continue to work with environmental justice communities to include mandatory emission reductions within overburdened communities. (73)

292. COMMENT: The proposed rules should include mandatory emission reductions for low-income, black, indigenous, and people of color communities. Additionally, the Department should adopt complementary rules that address the reduction of cumulative impacts. (89)

293. COMMENT: Every opportunity to reduce health harming emissions in communities of color and low-income communities should be explored. Accordingly, the Department should go above and beyond the proposed rules by taking the lead from environmental justice communities to achieve mandatory emissions reductions in particular communities. (15)

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294. COMMENT: The Department should include specific language to guarantee emissions reductions for environmental justice communities, and the need to take additional measures to specifically reduce cumulative impacts. (92)

295. COMMENT: The Department should adopt California's ACT regulation. Additionally, the Department should adopt specific goals for MDHD vehicles that operate in overburdened communities. The Department should implement incentives to ensure emissions goals are met. And school bus electrification should be a top priority for incentives in order to limit children's exposure to emissions. (21)

296. COMMENT: The Department should commit to prioritize zero-emission truck deployments and benefits to frontline communities in its subsequent regulations. (64)

297. COMMENT: The Department needs to move faster and more aggressively, especially in our overburdened communities where freight and goods movement are concentrated. Not only should there be mandatory reductions in overburdened communities of color, this electrification should be powered by renewable energy. In addition to adoption of California's ACT regulation, the Department should adopt complementary rules, such as the Low-NO_x Omnibus Rule, the Advanced Clean Fleet Rule, the cargo handling equipment rules, and the harbor craft rules. The Department should mandate and prioritize emission reductions at a faster pace in port and freight-adjacent communities. The Department should implement policies that target and mandate zero-emission zones, corridors, and warehouses where only electric trucks are allowed and are incentivized. This would be particularly essential in overburdened communities. The Department should consider some binding resolutions and other policies that some California communities have done pursuant to Community Benefit

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Agreements. The Department should not convert fossil-fuel port trucks to electric, on the backs of low income, independent owner-operators. The Department should reject implementation of the Transportation Climate Initiative in New Jersey. (32)

298. COMMENT: New Jersey needs to adopt California's ACT regulation while also considering a broader suite of policies that go beyond the California Low NO_x Omnibus and Advanced Clean Fleet rules. For example, the Department should consider reducing the upfront cost of zero-emission vehicles and infrastructure through rebate and incentive programs and innovative financing; providing the fueling/charging infrastructure required by increasing numbers of zero-emissions vehicles; ensuring that charging stations are well-suited to maximizing the grid and environmental benefits of zero-emission vehicles; undertaking comprehensive marketing, education, and outreach that leverages the core competencies of different agencies and successfully engages communities, in addition to helping ensure that smaller businesses are able to benefit from this transition; looking closely at worker classification issues and investing in businesses that have employees rather than independent contractors; implementing technology and price signals to ensure efficient operation of the system as a whole; and developing a more comprehensive network of air pollution monitors across the State.

Additionally, the Department should design policies to effectively further the transition to zero-emission vehicles need to ensure that communities most impacted by harmful air pollution are prioritized. Specifically, the Department should explore policies that would allow for regulatory actions that would provide clear and mandatory reductions in air pollution levels in environmental justice communities. The Department must make sure it is reaching out to communities to proactively inform them of rulemaking activities and ensure they are soliciting

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input from community-based organizations, environmental justice advocates, and other grassroots community leaders as the policies are being developed. The Department must ensure that these groups have a significant, meaningful role in actual implementation. (70)

299. COMMENT: It is important that the Department increase the share of renewable electricity generation to achieve maximum emissions reductions through adoption of ZEVs and to reduce health equity issues caused by pollution exposure shifts from power use areas to power generation locations. (37)

300. COMMENT: While the Department should adopt the proposed rules, which will play an important role in achieving mandatory emissions reductions, the rules are not the only policy necessary to achieve the necessary emission reductions. The State must continue to actively work for mandatory emission reductions in environmental justice communities. Additionally, the proposed rule should never be considered a complementary policy and/or justification for the State entering the Transportation Climate Initiative. (5)

301. COMMENT: The Department should adopt the proposed rules, but should also include specific language on direct action targeting environmental justice communities in order to address environmental racism. (86)

302. COMMENT: While the Department should adopt the proposed rules, the rules do not contain explicit environmental justice community language. There is evidence that in New Jersey, environmental justice communities suffer from a disproportionate amount of pollution when compared to other communities in the State. Therefore, the Department should adopt supplementary policies and rules in a timely fashion to ensure the proposed rules will result in emissions reductions in environmental justice communities without an undue delay. California

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recognized the need to adopt policies that directly and explicitly forced emission reductions in environmental justice communities. Thus, the Department should develop and implement supplemental regulations to ensure the proposed rules result in rapid emissions reductions in environmental justice communities. For example, supplemental regulations could require trucking companies that are based in environmental justice communities to use the portion of their fleet that is composed of zero-emission vehicles in those communities; the use of zero-emission trucks could be accelerated in environmental justice communities; consideration could be given to only allowing the use of ZEVs in environmental justice communities; or a fee could be assessed against non-zero-emission trucks that conduct business in environmental justice communities. These are just a few examples of policies that, after they are fully developed, could be implemented to make certain California's ACT regulation delivers emissions reductions in environmental justice communities soon after enactment. Additionally, the Department should implement a policy that calls for power plants that are either located in environmental justice communities, or whose air pollution emissions significantly impact environmental justice communities, to be required to reduce those emissions. This would reduce greenhouse gas co-pollutants, such as fine particulate matter, that are detrimental to the health of residents who live near the plants. These co-pollutants are part of the disproportionate pollution burdens affecting environmental justice communities and, thus, reducing them also diminishes the burdens. The Department should not rely on the Regional Greenhouse Gas Initiative (RGGI) or the Transportation and Climate Initiative to deliver emission reductions to geographically identifiable environmental justice communities since the

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former is fully a carbon-trading system and the latter will utilize a carbon-trading system at its core. (84)

RESPONSE TO COMMENTS 287 THROUGH 302: The Department acknowledges the commenters' support of the rules. The Department agrees that more work is necessary to ensure greater direct emissions reductions in overburdened communities and is coordinating with other State agencies and overburdened communities to ensure equity in vehicle and infrastructure incentive programs and accelerate the transition to renewable energy. In addition, actions are being proposed by the BPU to identify a role for utilities in medium- and heavy-duty make ready infrastructure. Pursuant to the Regional Greenhouse Gas Initiative (RGGI) strategic funding plan and the distribution of Volkswagen settlement funds, the Department and other State agencies are focused on working with overburdened communities to ensure equitable benefits from vehicle electrification and will continue to target funding for electrification in such communities and implement policy strategies that maximize benefits and emission reductions in overburdened communities that may have the poor air quality and greatest need. The Department acknowledges the input and concerns about market-based credit trading systems, such as the Transportation and Climate Initiative's regional low carbon transportation policy (TCI), as well as the other recommendations concerning supplementary and complementary rules and policies.

Though these comments are beyond the scope of the current rulemaking, the Department notes that it will continue to evaluate a variety of both regulatory mandates and revenue sources to support incentive programs that can accelerate transportation electrification programs, reduce emissions, and directly address emission and equity issues in

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overburdened communities in a collaborative manner. The Department's continued efforts will include, but not be limited to, implementation of the Environmental Justice Law, N.J.S.A. 13:1D-157 et seq., as well as engagement directly with stakeholders to explore additional measures within its authority.

FLEET REPORTING REQUIREMENTS

General Support

303. COMMENT: The Department should adopt the Fleet Reporting Requirements rule. (5, 67, and 87)

304. COMMENT: The Department's proposed Fleet Reporting Requirements rules are a great step in the right direction of securing clean air for all communities, especially those disproportionately burdened, and helping the State achieve its emissions reductions goals. (73)

305. COMMENT: The Department's proposal to adopt a Fleet Reporting Requirements will provide necessary information to the Department and the public about MDHD fleets in the State. (35 and 87)

306. COMMENT: The proposed, one-time fleet reporting requirement will help inform the development of policies and programs needed to facilitate MDHD ZEV deployment and should be adopted. (97)

307. COMMENT: The Department's efforts to gain information about MDHD vehicle fleets through the Fleet Reporting Requirements will be invaluable if the Department takes further actions to accelerate the deployment of zero-emission vehicles. Fully electrifying the MDHD

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vehicle fleet in New Jersey will be aided by effective deployment of and investment in charging infrastructure to serve that fleet. (25)

RESPONSE TO COMMENTS 303, 304, 305, 306, AND 307: The Department acknowledges the commenters' support of the rules.

Lower the Reporting Threshold and/or Require More Frequent Reporting

308. COMMENT: In order to adequately meet the needs of fleet operators, the State needs to understand the makeup, locations, and operations of existing fleets. While California set a precedent for a one-time reporting requirement for private fleet owners with 50 or more vehicles, this reporting threshold is too high to adequately capture existing fleets in New Jersey. The Department should adopt a minimum reporting threshold of 10 vehicles to capture at least a third of New Jersey's MDHD vehicle fleets. Additionally, the Department should be performing annual evaluations to ensure the existing threshold remains adequate. The data gathered through a lower threshold will help New Jersey craft supporting policies and incentives to ensure the success of the ACT regulation, the rapid decarbonization of the sector, and the near-term unlocking of the long-term cost savings our members seek.

(46)

309. COMMENT: The Department's proposal of a 50-vehicle threshold for the Fleet Reporting Requirements will capture only a small fraction of the number of MDHD vehicles in New Jersey, as demonstrated by the Department's data. As such, the Department should lower the threshold of the rules. (5, 25, 35, 68, 69, 70, and 87)

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310. COMMENT: The Department should reduce the fleet size for purposes of reporting pursuant to the Fleet Reporting Requirements. The requirements for a fleet should be reduced from 50 trucks to five. (5, 35, 40, 56, 68, 70, and 87)

311. COMMENT: The current 50-truck threshold in the fleet reporting requirement proposal will cover only 33 percent of total MDHD vehicles. It should be lowered to 10 or 15 to capture the most trucks. (28)

312. COMMENT: The Department should adopt the Fleet Reporting Requirements with a significantly lower fleet threshold. (6 and 25)

313. COMMENT: The Department should modify its fleet reporting requirement rules to decrease the reporting threshold to five or more to capture a larger share of the trucks in operation in the State and better reflect New Jersey's fleets. (64)

314. COMMENT: The Department should change the proposed fleet reporting requirements to a five-truck threshold. Right now, only 33 percent of trucks would be captured by the proposed 50-vehicle fleet threshold. (32)

315. COMMENT: The Fleet Reporting Requirements should be revised to lower the threshold to capture the fleets that operate in environmental justice communities. (85)

316. COMMENT: The Department should strengthen the Fleet Reporting Requirements to cover more fleets. (69 and 77)

317. COMMENT: The Department should require all tractors and drayage trucks to submit reports under the Fleet Reporting Requirements. Small fleet owners and contract drivers are the least likely to have information or resources to be able to shoulder the upfront costs of switching to ZE MHDVs, notwithstanding savings over the lifetime of the vehicle. Information

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about these vehicles will help the Department and other New Jersey agencies conduct outreach and better direct resources to this segment of the industry. At the very least, the Department should set a reporting threshold of no higher than five vehicles for tractors and drayage trucks to ensure that the majority of trucks serving the Port Authority of New York and New Jersey facilities are covered by the rule. (35 and 87)

318. COMMENT: The Department should require annual fleet reporting. (5)

319. COMMENT: The Department should make the Fleet Reporting Requirements an annual reporting mandate, rather than a one-time requirement. (6 and 32)

320. COMMENT: The Department should modify its Fleet Reporting Requirements proposal to have reporting occur on a more regular basis. (64)

321. COMMENT: The Department should change the one-time-only reporting requirement into an annual or biennial reporting requirement. (40)

322. COMMENT: The Department should consider changing the Fleet Reporting Requirements from a one-time-only reporting system to a periodic reporting system. Between now and 2035—let alone between now and the target deadline for New Jersey’s decarbonization goals in 2050—the nature, use, makeup, and charging needs for the State’s MDHD vehicle fleets will change significantly. The Department needs to ensure that the data it collects are not only currently useful, but also that the data remain both current and useful as the State’s fleet transforms, which means collecting information periodically and longitudinally. (25)

323. COMMENT: The fleet reporting requirements should be annual. Simply put, a one-time reporting requirement does not capture ongoing changes in the market; an annual reporting

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requirement will better ensure that the State can capture benefits and make any course correction necessary. (70)

324. COMMENT: The Department should require yearly reporting for the initial period of the ACT Rule's implementation to better track the impacts and benefits of the rulemaking. (35, 68, and 87)

RESPONSE TO COMMENTS 308 THROUGH 324: A 50-vehicle threshold will capture only some of the fleets in New Jersey. However, new N.J.A.C. 7:27-33.3(a)1 requires several other categories of vehicle owners to report information if they have one or more vehicles.

Specifically, any entity with gross annual revenues greater than \$50 million in the United States for the 2021 tax year that operated a facility in New Jersey in 2021 must report; as must any Federal, State, or local government agency; and any broker or other entity that dispatched 50 or more vehicles into, or throughout, New Jersey and operated a facility in New Jersey.

Acquiring information from all of these entities will help inform any potential future rules. The Department will need time to evaluate the information received in response to the adopted rules. If, after careful analysis, the Department determines that there are gaps in the quality or quantity of information received, the Department may require additional information or convene additional stakeholder meetings before proceeding with any future policy or rulemaking efforts.

Support but Require More Detailed Information on Brokers and Contract Truckers

325. COMMENT: The Department should get more detailed information from brokers. (32)

326. COMMENT: The Department should ask for more detailed information about brokers and contract truckers to better understand their business practices and help devise more equitable

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strategies that do not place all of the financial burden of electrification on contract drivers, who make up over 75 percent of all port drivers. (5, 35, 68, and 87)

327. COMMENT: Information on brokerage and contract drivers should be collected in order to help ensure fair business practices and help to avoid the misclassification of workers as independent contractors. (35, 70, and 87)

328. COMMENT: The Department should make sure to cross-reference the reported information with information under the entity's Federal Motor Carrier Safety Administration broker registration, its U.S. Department of Transportation number, and other identification to ensure that all contracted trucks are being reported to Department. To assist in cross-referencing and ensure that no contracted trucks fall through the cracks, the Department should also ask reporting entities to report the vehicle identification numbers of all vehicles owned or brokered by the entity. (35 and 87)

329. COMMENT: The Department should require that all contracted trucking logistics fleets be subjected to the Fleet Reporting Requirements. (40)

330. COMMENT: The Fleet Reporting Requirements should include data on contract trucking operations, employee misclassification, and asset risk because the Department should be collecting information on small- and medium-sized fleets as well. (61 and 92)

RESPONSE TO COMMENTS 325, 326, 327, 328, 329, AND 330: The adopted rules require brokers to provide additional information and details about contracted trucking practices, as well as keep and provide records about dispatched trucks on request. This will enable the Department to better assess how fleets that use contracted trucks operate, especially from the drayage and delivery sectors. The regulation balances the need to collect as much information

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as possible with the burden on affected entities. The Department believes the required information is sufficient to broadly characterize industry sectors and to identify business models that may be able to electrify their fleets sooner. If the Department determines that there are gaps in the quality or quantity of information received, the Department may convene additional stakeholder meetings and/or information gathering to discuss future policy or rulemaking efforts. To the extent the comments are concerned with fair business practices or the costs of potential fleet purchase mandates, those issues are beyond the scope of this rulemaking.

331. COMMENT: The Fleet Reporting Requirements should not place all of the cost burden for electrification solely on individual drivers, who are often misclassified as independent contractors. (56)

RESPONSE: The Fleet Reporting Requirements are a one-time reporting requirement with minimal associated costs. If the commenter is referring to the costs associated with California's Advanced Clean Fleet rules, those rules have not been proposed by California or the Department and are beyond the scope of this rulemaking.

Limit Confidentiality

332. COMMENT: Fleet reporting should be made public insofar as is possible; limiting confidentiality will enable stakeholders and impacted communities to understand where and how fleets are operating. (70)

333. COMMENT: The Department should have public disclosure. (32)

334. COMMENT: The proposed rules should limit confidentiality to ensure that the public and the Department have the most up-to-date information. In this way the Department can

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determine progress, gaps, and prioritize future policies, accountability, and funding in real time, where the need is greatest. (5)

335. COMMENT: The Department should ensure that any reporting entity's request to keep its information confidential is constructed narrowly to ensure as much public access to this information as possible. (35 and 87)

RESPONSE TO COMMENTS 332, 333, 334, AND 335: As stated in the notice of proposal, the information submitted in response to the Fleet Reporting Requirements would be treated confidentially, only if an entity or person submitting information makes a successful claim of confidentiality pursuant to the procedures set forth at existing N.J.A.C. 7:27-1.

Penalties Should be Revised

336. COMMENT: The Department should revise the penalty provisions at N.J.A.C. 7:27A for the proposed Fleet Reporting Requirements. Given the newness of this responsibility, the Department should anticipate inadvertent violations. Thus, the fee schedule should be revised to have the first offense penalty be an official warning and not \$500.00. The Department should work with leading trade associations and groups to help educate entities that are potentially under this new requirement. (47)

RESPONSE: In the notice of proposal Summary, 53 N.J.R. at 593, the Department explained that based on the criteria at N.J.S.A. 13:1D-129, it determined which of the proposed penalties at N.J.A.C. 7:27A-3.10(m) are minor and subject to a grace period, and which are non-minor and not subject to a grace period. Generally, 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

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classified as “minor.” 53 N.J.R. 593. N.J.A.C. 7:27-33.4(a) requires entities subject to the adopted rule to submit information specified at N.J.A.C. 7:27-33.6 and 33.7. The Fleet Reporting Requirements will help inform potential future strategies to accelerate the sale and use of zero-emission vehicles in the MDHD weight classes. See 53 N.J.R. 591. In response to the comment, the Department reviewed the classification of the violation at N.J.A.C. 7:27-33.4(a), in light of the criteria set forth at N.J.S.A. 13:1D-129 and determined that this violation should be designated minor and subject to a grace period. The Department is, therefore, modifying the penalty table at N.J.A.C. 7:27A-3.10(m)33 on adoption to classify the penalty for a violation of N.J.A.C. 7:27-33.4(a), Failure to submit, as minor.

Further, because this is a new rule, the Department will be implementing a robust outreach and education process prior to the first compliance deadline to ensure that regulated entities are aware of and understand the requirements. Increasing awareness should minimize the number of inadvertent violations.

LEGAL

Clean Air Act: SIP Requirement

337. COMMENT: Under the CAA, New Jersey has the authority to adopt California’s ACT regulation because it has nonattainment and maintenance plan provisions approved by the EPA. Clean Air Act Part D, Section 177 specifies, “any State which has plan provisions approved under this part may adopt and enforce for any model year [California] standards relating to control of emissions from new motor vehicles or new motor vehicle engines.” 42 U.S.C. § 7507 (emphasis added). The term “Plan provisions approved under this part” applies both to nonattainment plan provisions and maintenance plan provisions, as both such plan types are

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approved by the EPA under Clean Air Act Part D. See 42 U.S.C. §§ 7502(c), 7505a (concerning nonattainment and maintenance plans, respectively, both under Part D); see also *Am. Auto.*

Mfrs. Ass'n v. Comm'r, Mass. Dep't of Env't Prot., 31 F.3d 18 (1st Cir. 1994) (observing that Section 177 means that “any State which has plan provisions [for the attainment and maintenance of the NAAQS] may adopt and enforce for any model year standards ...”).

Accordingly, since the EPA has approved multiple New Jersey nonattainment and maintenance plan provisions, New Jersey satisfies the Section 177 requirement to adopt California’s ACT regulation. (25, 35, and 87)

338. COMMENT: Section 177 of the CAA authorizes a state to opt into California’s standards only if the state has an EPA-approved State Implementation Plan (SIP) and the standards are necessary components of the state’s NAAQS attainment demonstration. According to New Jersey’s 2017 ozone SIP, the State has met its obligation for the 84 ppb and 75 ppb ozone NAAQS. Additionally, the State’s monitors show the State is already close to attaining the 70 ppb ozone NAAQS and must demonstrate attainment several years before its proposed rule could take effect (that is, Model Year 2025). As such, the State is not authorized to opt in under Section 177 because the Department does not need, and cannot rely on, California’s ACT regulation as a SIP provision to demonstrate attainment with the ozone NAAQS. (27)

339. COMMENT: If New Jersey is in attainment with the NAAQS, the Department has not demonstrated that the State must adopt California’s rules to comply with the NAAQS, which is a predicate to opt-in under Section 177. With the implementation of existing EPA light- and heavy-duty emission standards, New Jersey is expected to attain all NAAQS within the CAA’s required timeframes. (31)

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RESPONSE TO COMMENTS 337, 338, AND 339: Section 177 of the CAA provides that “any State which has plan provisions approved under [Part D of Subchapter I of the Act] may adopt and enforce for any model year standards relating to the control of emissions from new motor vehicles ...” 42 U.S.C. § 7507. The threshold requirement of Section 177 is that a state “has plan provisions approved under this part [D].” Such approved plan provisions are not limited to states with nonattainment plans (Section 172) but include, for example, states that have achieved attainment, but have approved maintenance plans (Section 175A) or have other approved plan provisions related to their being within the Ozone Transport Region (Section 184), in addition to states with approved nonattainment plans. Once the threshold is met, the CAA plainly gives states the discretionary authority to determine what California “standards relating to the control of emissions from new motor vehicles” to adopt, subject only to the identity and lead time requirements. This authority is granted directly, and exclusively, to states. There is no requirement at Section 177 for demonstrating need, let alone need into the future. New Jersey has nonattainment and maintenance plan provisions approved by the EPA. The Department is, therefore, authorized to adopt California’s ACT regulation pursuant to Section 177.

Clean Air Act: Identity Requirement

340. COMMENT: The Department should reject invitations to defer adopting California’s ACT regulation until 2022 because such delay could hamper the Department’s application of the standards to the 2025 model year. Section 177 requires New Jersey to “adopt [California] standards at least two years before commencement of [the vehicle] model year (as determined by regulations of the [EPA] Administrator).” 42 U.S.C. § 7507; see also 40 CFR 85.2302, 85.2303,

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85.2304(a) (noting that “model year” can mean the “manufacturer’s annual production period,” which in turn can start as early as “January 2 of the calendar year preceding the year for which the model year is designated”). So delaying adoption of California’s ACT regulation may delay the first model years that New Jersey could address. To ensure New Jersey can implement the ACT Rule beginning with model year 2025 trucks, the Department should adopt the rules before 2022. Likewise, there is no legal requirement for the Department to delay incorporation of the ACT regulation until all other California rules concerning MDHD vehicles have been finalized. While the CAA requires the Department to adopt rules that are “identical” to the ACT regulation, adopting the ACT regulation now and future California low-emission MHDV standards later would not contravene this “identity” requirement because manufacturers would not need to create a “third vehicle” that does not already meet the California or Federal standards. *See* 42 U.S.C. § 7507; *Engine Manufacturers Ass’n v. S. Coast Air Quality Mgmt. Dist.*, 158 F. Supp. 2d 1107, 1119 (C.D. Cal. 2001), *aff’d* 309 F.3d 550 (9th Cir. 2002), *vacated on other grounds*, 541 U.S. 246 (2004) (“Congress’ purpose in enacting § 177 is to prevent states from adopting and enforcing standards in a manner that would create a ‘third vehicle.’”). The Department can, and should, adopt each MDHD vehicle rule as soon as it can, and not wait until California finalizes all possible MDHV rules. (35 and 87)

RESPONSE: The Department acknowledges the concern about the model year that will be subject to the adopted rules. Accordingly, the Department has chosen model year 2025 to ensure that manufacturers will have the full two-year lead time pursuant to the CAA should their production period differ from the calendar year associated with a vehicle’s model year.

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341. COMMENT: The ACT Program as the Department would adopt and implement it in New Jersey would not be “identical” to the ACT Program that CARB is implementing in California.

The ACT Rule, as adopted in California, requires the manufacturers of MDHD vehicles to sell an increasing percentage of ZEV trucks starting in 2024, with the mandated ZEV sales percentages varying for the different weight classes of MD and HD vehicles. The ACT regulation, as originally adopted in California, applies a percentage-based sales mandates to the total number of MDHD vehicles that a manufacturer sells in California to calculate the specific number and types of ZEV trucks, as sorted into the three weight-class groups, that a manufacturer needs to sell in a given year. The percentages are set forth at 13 CCR 1963.1, Table A-1 and the weight class modifiers are set forth at 13 CCR 1963.1, Table A-2. Basically, a manufacturer generates a “deficit” for each conventionally fueled vehicle it sells in any of the three listed weight-class groups of vehicles. The manufacturer then needs to generate a “credit” to offset that deficit by selling a ZEV truck of the same type, by selling a near-ZEV truck of the same type (which will earn partial credit), or by buying credits from another manufacturer. The credits that a manufacturer earns are weighted (using differing multipliers) based on the vehicle class of the ZEV truck that the manufacturer sells, with larger heavier trucks earning higher credit-multipliers than smaller lighter trucks. The ACT regulation’s prescribed ZEV-sales percentages, in essence, are used to calculate the number of deficits that need to be retired each year through a manufacturer’s sale of ZEV trucks and generation of corresponding credits. Those required ZEV-sales numbers are directly tied to the numbers and types of MDHD vehicles that a manufacturer sells into the California market each year.

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Significantly, the Department is not proposing to utilize the California-sales-based calculations to determine the number of ZEV trucks that would need to be sold in New Jersey under the proposed opt-in to California's ACT regulation. Instead, the Department intends to apply the ZEV-percentage sales mandates and weighting factors (set forth at 13 CCR 1963.1, Tables A-1 and A-2) to the number and types of conventionally fueled MDHD vehicles that a manufacturer sells in New Jersey. To any manufacturer, the ZEV-truck production mandates under the ACT Program are not identical for California and New Jersey in practice because the manufacturing profile for its overall production of ZEV trucks for New Jersey and California will differ.

Significantly, the disparate and non-identical impacts on manufacturers from imposing the prescribed ZEV-sales mandates on differing mixes of truck sales in the two States will be exacerbated even more – multiplied, in fact – once the ACT program's various ZEV-credit multipliers (weighted differently for the three different weight-class groupings) are applied to manufacturers' differing mixes of trucks sold each year in the two states. That multiplying effect of the very real differences between the implementation of the ZEV mandates makes it even more apparent that the ACT Program would not apply identically to manufacturers selling trucks in New Jersey and California. The net result is that the Department is not authorized to adopt the ACT Program under CAA Section 177.

The ACT Program as the Department has proposed to adopt it is non-identical to California's in another important aspect as well. More specifically, under California's ACT Rule, MDHD manufacturers can generate and "bank" early credits by selling ZEV trucks starting this year, in 2021, which gives manufacturers a three-year window to generate ZEV credits before

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they start to accrue deficits in 2024 for their sales of conventionally fueled vehicles in California.

(27)

RESPONSE: The identity requirement of Section 177 of the CAA is intended to prevent states that adopt a California vehicle emission standard from requiring or causing a manufacturer to create a motor vehicle or engine that is different than the motor vehicle or engine certified in California under the California standard. This prohibition is also sometimes referred to as a prohibition on the creation of a "third vehicle." 42 U.S.C. § 7507. The commenters' concern, as the Department interprets it, is that the use of New Jersey sales-based data when determining the prescribed ZEV-percentages to be applied to manufacturers will result in a different number and mix of MDHD vehicles sold in California than in New Jersey, which would violate the identity requirement of Section 177 of the CAA.

The Department agrees that, factually, New Jersey vehicle sales numbers and fleet mixtures will not be identical to those in California. The adopted rules are designed as a credit/deficit program. A manufacturer's overall sales of MDHD vehicles (conventionally fueled and ZEV technology) will dictate the number of deficits it incurs and, therefore, the number of credits that must be used to offset those deficits. Below is an example of the rules' implementation if the Department were to apply the commenter's interpretation (that is, apply California's sales-based data when determining the prescribed ZEV-percentages to be applied to manufacturers in New Jersey):

Manufacturer A has 10,000 total sales of Class 2b/3 vehicles in California in MY 2025, but has 1,000 total sales of Class 2b/3 vehicles in New Jersey in MY 2025. Under the commenter's scenario and pursuant to Table A-1, New Jersey should calculate Manufacturer

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A's deficits for Model Year 2025 in New Jersey based upon 7 percent of Manufacturer A's 10,000 sales in California. This would result in Manufacturer A incurring a total of 700 deficits in New Jersey that would need to be offset with 700 credits, which could only be earned through direct ZEV sales in New Jersey. Despite the fact that Manufacturer A's sales of all MDHD (conventionally fueled and ZEV technology) vehicles in New Jersey totaled only 1,000, Manufacturer A would need ZEV credits equaling 700 vehicle sales. Put another way, ZEV credits would have to account for 70 percent of their total sales in this weight class. Thus, the credits and deficits incurred by a manufacturer operating in the New Jersey market would have no relationship to that manufacturer's market share in this State.

The Department is confident that using New Jersey sales-based data will not result in the creation of a "third car" as prohibited by Section 177 of the CAA. All MDHD vehicles developed by a manufacturer to meet California's emission requirements can be used to fulfill any New Jersey requirement. No additional engine certifications or vehicle models will need to be created specific for New Jersey because the engine and vehicle standards, as well as the rules' percentages used to calculate the deficits incurred by a manufacturer will be identical to the standards and percentages used in California. For clarity, this scenario does not substantially differ from the manner in which New Jersey implements California's light-duty vehicle emission standards pursuant to N.J.A.C. 7:27-29. California and New Jersey do not have identical sales volume nor exact fleet mixes in the light-duty vehicle sector, yet pursuant to New Jersey's Low Emission Vehicle Program (LEV Program), the vehicle standards and sales percentage requirements in California and New Jersey rules are identical. And no manufacturer

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has been required to develop a third vehicle to fulfill a requirement pursuant to the LEV program, which has been in operation since model year 2009.

With respect to the concern about early generation of credits, the Department does not agree that this creates an identity issue. Again, this provision does not result in the creation of a third vehicle. Nonetheless, the Department has reconsidered its position on this issue and has determined it will modify N.J.A.C. 7:27-31.3 and 31.4(j) on adoption to allow New Jersey manufacturers to accrue credits beginning in MY 2022, rather than MY 2024 as proposed. This will provide the same three-year period of early credit banking that California has provided and will ensure that manufacturers selling in New Jersey are not at a disadvantage.

342. COMMENT: States must adopt regulations that are identical to California's rules in order to avoid Federal preemption. The Department concedes that it is not identical to California. For example, in the proposal, the Department admits that there are "key differences between the reporting requirements of California's ACT regulation and the Department's proposed rules." Further, the notice of proposal highlights the differences in the banking of early adoption credits. Though the Department calls its proposal "nearly identical" to California's regulations, that does not meet the statutory requirements to be "identical." (31)

RESPONSE: As explained in the notice of proposal Summary, the Department did not propose to incorporate by reference the provisions of California's ACT regulation that included a one-time fleet reporting requirement. As discussed in the Response to Comment 341, Section 177 of the CAA is intended to prevent states that adopt a California vehicle emission standard from requiring or causing a manufacturer to create a motor vehicle or engine that is different than the motor vehicle or engine certified in California under the California standard. The reporting

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requirements are not emission standards within the meaning of Section 177 of the CAA as they have no relationship to any manufacturer's engine production. Thus, there is no identity concern. To the extent the commenter is concerned about the banking of early credits, see the discussion in the Response to Comment 341.

Clean Air Act: Waiver Requirement

343. COMMENT: Section 177 of the CAA authorizes states to adopt and enforce California's emission standards if the EPA issued a preemption waiver to California and the standards are necessary for the State to come into compliance with the national ambient air quality standards (NAAQS). No waiver is in effect for California's ACT regulation. Therefore, the Department's proposed rules are in conflict with the Federal statute, even if the Department defers enforcement until a waiver is granted. Additionally, there is uncertainty for manufacturers because of the EPA's current revocation of California's waiver and what standards would apply to what model years if the waiver is reinstated. As a legal and policy matter, the Department should wait the outcome of the waiver proceeding. The Department has cited no authority for a "contingent" rulemaking, which raises fairness and due process concerns. (31)

RESPONSE: The Department is authorized to adopt California's standards before the EPA has granted a waiver, as long as the Department does not enforce the standards until the waiver is obtained. *Motor Vehicle Mfrs. Ass'n v. New York State Dep't of Envtl. Conservation*, 17 F.3d 521, 533-34 (2d Cir. 1994). Section 177 of the CAA requires the State to provide a two-year lead time, which provides manufacturers and interested parties sufficient time to prepare for the State's opt-in. The Department presumes that "waiver revocation" refers to the EPA's

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action related to California's Advanced Clean Car program. See 78 FR 2112 (Jan. 9, 2013). The EPA recently published notice of its reconsideration of this action. 86 FR 22421.

Authority Under State Law: Advanced Clean Trucks Program

344. COMMENT: The Air Pollution Control Act does not provide the Department with the authority to incorporate by reference California's ACT regulation. When the Department adopted the California passenger vehicle and light duty truck program, it did so with the authorization of a statute passed by the Legislature. Nothing in the Global Warming Response Act gives the Department additional regulatory authority; it only directs the Department to use its existing authorities to achieve a certain policy outcome. Thus, the Department is without the authority to adopt the proposed rules absent specific legislative authorization. (12)

345. COMMENT: The Department has authority under New Jersey State law to adopt this rulemaking. The New Jersey Legislature has strongly communicated to the Department that the agency must act quickly to reduce pollutants. First and foremost, the Legislature has granted the Department-wide authority to protect air quality through the regulation of polluting sources. See N.J.S.A. 26:2C-8(a) ("The department shall have power to formulate and promulgate, amend and repeal codes and rules and regulations preventing, controlling and prohibiting air pollution throughout the State or in such territories of the State as shall be affected thereby"); see also *American Petroleum Institute v. New Jersey Dept. of Environmental Protection*, 230 N.J. Super 563, 565 (App. Div. 1989) (noting the "presumption of validity to which [the Department is] entitled" because of "conformance with the legislative goals of the enabling statute and their evident inclusion within the scope of the delegated administrative authority.") *In re Adoption of Amendments and New Regulations at N.J.A.C. 7:27-27.1*, 392 N.J.

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Super 117, 118 (App. Div. 2007), *certif. denied* 192 N.J. 295 (upholding rules issued under “[the Department’s] broad authority to issue health-based regulations under N.J.S.A. 26:2C-8.”)

Further, the New Jersey Legislature has, of course, not only directed the Department to reduce conventional pollutants, but also has specifically issued a directive to reduce greenhouse gas emissions. N.J.S.A 26:2C-40(a) (“No later than January 1, 2050, the greenhouse gas emissions in the State shall be stabilized at or below the 2050 limit and shall not exceed that level thereafter”); N.J.S.A 26:2C-39 (defining “2050 limit” as “the level of greenhouse gas emissions equal to 80 percent less than the 2006 level of Statewide greenhouse gas emissions”). (25)

RESPONSE TO COMMENTS 344 AND 345: New Jersey's Air Pollution Control Act gives the Department broad authority to promulgate rules “preventing, controlling and prohibiting air pollution throughout the State,” including air contaminants from motor vehicles. N.J.S.A. 26:2C-8 and 8.1. The statute defines “air pollution” to include “the presence in the outdoor atmosphere of one or more air contaminants in such quantities and duration as are, or tend to be, injurious to human health or welfare, animal or plant life ...” N.J.S.A. 26:2C-2. The GWRA finds and declares that greenhouse gases “increase temperatures in the atmosphere” and that “if steps are not taken to reverse these trends, the effects on human, animal and plant life on Earth may be catastrophic.” N.J.S.A. 26:2C-38. The Legislature further declared that a comprehensive strategy to reduce greenhouse gas emissions 80 percent below the 2006 level by the year 2050 is in the public interest. N.J.S.A. 26:2C-38. Likewise, the GWRA declares that the State should implement cost-effective measures to reduce emissions of greenhouse gases. N.J.S.A. 26:2C-45. As noted in the notice of proposal, the purpose of the Department’s adopted rules is to reduce emissions of air pollution that is injurious to human, animal, and plant life –

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namely, NO_x and PM_{2.5}, and greenhouse gases. See 53 N.J.R. at 590. The reduction in CO₂ emissions expected as a result of the proposed rules will serve as an initial step in the State's comprehensive approach toward reducing emissions of greenhouse gases from the transportation sector. See 53 N.J.R. at 589. Thus, the Department has legislative authority under State law to incorporate by reference California's ACT regulation. For a discussion of New Jersey's authority under the CAA to adopt California's ACT regulation, see the Responses to Comments 337, 338, 339, 340, 341, 342, and 343.

Authority Under State Law: Fleet Reporting Requirements

346. COMMENT: The Department is without the legal authority to adopt the Fleet Reporting Requirements. Trucks are not currently regulated directly by the Department, nor are the businesses that own those trucks. It is possible that the majority of truck owners in this State have no regulatory connection to the Department. Yet, the Department believes it has the legal authority to require any business or truck owner in the State to submit documentation to it under penalty of law. (12)

RESPONSE: As noted in the Response to Comments 344 and 345, the Department has broad authority to promulgate rules addressing air pollution and air pollution sources pursuant to the APCA. See N.J.S.A. 26:2C-2. Moreover, the Department has the authority to require the filing of reports by persons engaged in operations that may result in pollution. See N.J.S.A. 13:1D-9 and 26:2C-9. The goal of the fleet reporting requirement rules is to gather information from the operators and owners of MDHD vehicles in New Jersey, to inform future actions to increase the use of ZEVs, which would reduce emissions of air pollution from the transportation sector. Accordingly, the Department has authority to require a one-time report by owners and

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operators of MDHD vehicles that contribute to the overall emissions of the transportation sector.

Summary of Agency-Initiated Changes upon Adoption:

1. N.J.A.C. 7:27-31.4 identifies the specific provisions of the CCR that are incorporated by reference into new N.J.A.C. 7:27-31. N.J.A.C. 7:27-31.4(g) specifies that in all provisions of CCR Title 13 incorporated by reference, “California” is replaced with “New Jersey,” except as specified. The Department is modifying N.J.A.C. 7:27-31.4(g) upon adoption to include 13 CCR 1963(e), which exempts manufacturers with fewer than 500 annual MDHD vehicles sales in California, in the list of excepted CCR provisions. Therefore, as adopted, “New Jersey” does not replace “California” at 13 CCR 1963(e), incorporated by reference, and manufacturers with fewer than 500 annual MDHD vehicle sales in California are exempt. The Department is making this change upon adoption to maintain consistency with California’s program.

N.J.A.C. 7:27-33.3, 33.4, and 33.6, Reporting year and submission date for fleet reporting requirements

2. N.J.A.C. 7:27-33.5 outlines the general requirements for entities that are subject to the requirements at new Subchapter 33. The Department proposed to collect data from 2021, to be reported by April 1, 2022. 53 N.J.R. 592. The Department is modifying the rule upon adoption to change the date of the data to be collected from 2021 to 2022, given the continuing impact of the COVID-19 pandemic on the economy and to ensure that the information collected more accurately represents the operations of reporting entities, as the Department intended. *Ibid.* Accordingly, the Department is modifying N.J.A.C. 7:27-33.3(a)1 through 5, 33.4(g), and 33.6(a)11, 14, and 16 to replace 2021 with 2022. Because the

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Department is modifying the year of data collected, the Department is also modifying N.J.A.C.

7:27-33.4(a) upon adoption to delay the date for submission from April 1, 2022, to April 1, 2023.

Federal Standards Statement

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

ACT Program

The Federal 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. Accordingly, no Federal standards analysis is required.

Fleet Reporting Requirements

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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.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks

thus; deletions from proposal indicated in brackets with asterisks ***[thus]***):

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. (No change from proposal.)

2. Beginning with the model year ***[2024]* *2022***, 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 by reference herein.

7:27-31.4 Incorporation by reference

(a)-(d) (No change from proposal.)

(e) On or after (***[the operative date of this new subchapter]* *December 31, 2021,*** or the operative date of California's regulations, whichever is later), new California rules,

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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) (No change from proposal.)

(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) and ***13 CCR 1963(e) and***, wherein the terms “excluded bus,” “executive officer,” and “gross vehicle weight rating” or “GVWR” are defined.

(h)-(i) (No change from proposal.)

(j) In all provisions of CCR Title 13 incorporated by reference, replace the year “2021” with the year ***[“2024,”] * “2022,”*** except at 13 CCR § 1963.2(g).

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] * “2022”*** tax year, including revenues from all subsidiaries, subdivisions, or branches, that operated a facility in New Jersey in ***[2021] * “2022”*** and had one or more

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vehicles over 8,500 pounds GVWR under common ownership or control that were operated in New Jersey in *[2021.]* ***2022,***

2. Any fleet owner that, in the *[2021]* ***2022*** 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]* ***2022*** 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]* ***2022***; 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]* ***2022***.

(b) (No change from proposal.)

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]* ***2023***, through the web portal to be established on the www.stopthesoot.org website.

(b) – (f) (No change from proposal.)

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(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]* ***2022***, and December 31, *[2021]* ***2022***.

7:27-33.6 General entity information reporting

(a) An entity subject to this subchapter shall report the following general information, as applicable:

1. – 10. (No change from proposal.)

11. For a non-governmental entity, the total annual revenue for the entity in the United States for *[2021]* ***2022***;

12. - 13. (No change from proposal.)

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]* ***2022***;

15. (No change from proposal.)

16. The number of vehicles with a GVWR over 8,500 pounds the reporting entity owned and operated in New Jersey in *[2021]* ***2022*** that do not have a vehicle home base in New Jersey.

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

(a) - (l) (No change from proposal.)

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(m) The violations of N.J.A.C. 7:27, whether the violation is minor or non-minor in accordance with (q), (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 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.

1 –32. (No change from proposal.)

33. 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:

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|-----------------------|---|-------------------|---------------|----------------|---------------|------------------------------------|
| N.J.A.C. 7:27-33.4(a) | Failure to submit | *[NM]* *M* | \$2,000 | \$4,000 | \$10,000 | \$30,000 |
| N.J.A.C. 7:27-33.4(a) | Omission of required Information specified in N.J.A.C. 7:27-33.6 and 33.7 | M | \$500 | \$1,000 | \$2,500 | \$7,500 |

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| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|----------------------------------|---|-------------------|---------------|----------------|---------------|------------------------------------|
| N.J.A.C. 7:27-33.4(b) | Failure to certify | M | \$2,000 | \$4,000 | \$10,000 | \$30,000 |
| N.J.A.C. 7:27-33.5(a)1 through 4 | Failure to maintain records | M | \$500 | \$1,000 | \$2,500 | \$7,500 |
| N.J.A.C. 7:27-33.5(a) | Failure to make records readily available | M | \$500 | \$1,000 | \$2,500 | \$7,500 |
| N.J.A.C. 7:27-33.5(b) | Failure to respond to an information request from the Department in a timely manner | M | \$500 | \$1,000 | \$2,500 | \$7,500 |

(n) – (u) (No change.)