October 8, 2020

Via E-mail to njairrulesmobile@dep.nj.gov

New Jersey Department of Environmental Protection
401 E State St
Trenton, NJ 08608

Re: NJ PACT Stakeholder Comments on California Advanced Clean Truck Regulation, Drayage Trucks, California Zero Emission Fleets Regulation, California Heavy-Duty Engine and Vehicle Omnibus Regulation, Medium Duty Diesel Vehicle Inspection Regulation, Cargo Handling Equipment, Oceangoing Vessels, and Harbor Craft

The Coalition for Healthy Ports NY NJ (CHP) and Earthjustice submit these comments to the New Jersey Department of Environmental Protection (DEP) regarding the regulatory concepts for medium- and heavy-duty trucks, cargo-handling equipment, ocean-going vessels, and harbor craft that DEP discussed at the New Jersey Protecting Against Climate Threats (NJ PACT) stakeholder meetings held on September 10, 2020 and September 16, 2020. We strongly urge DEP to move forward with the proposals to adopt the California Advanced Clean Trucks Rule and a medium-duty diesel vehicle inspection program, as well as the forthcoming heavy-duty engine and vehicle omnibus regulation and rules regarding drayage trucks, zero-emission fleets, cargo handling equipment, ocean-going vessels, and harborcraft, as outlined in the stakeholder meetings. We also urge DEP to adopt California regulations concerning transportation refrigeration units. In addition, DEP's implementation of these new rules and standards should prioritize reducing emissions in environmental justice communities first, to the extent feasible.

CHP is a bi-state collaboration of over forty environmental, social justice, community, labor, and interfaith organizations committed to a clean environment, healthy neighborhoods, and good jobs. CHP formed over a decade ago because seaports in the New York-New Jersey area, and the associated goods movement infrastructure, represent one of the most significant environmental burdens on already overburdened and vulnerable communities in the region.

Much of this environmental impact stems from the burning of diesel fuel by drayage trucks, transport refrigeration units, cargo handling equipment, and marine vessels in and around Port Newark-Elizabeth. Diesel emissions are associated with damage to cardiovascular, respiratory, and immunological systems, impaired neurological development, stroke, impaired liver function, and other conditions.[1] Emissions in the United States from on-road diesel

[1] *See, e.g.*, U.S. Envtl. Prot. Agency, EPA-600-8-90-057F, *Health Assessment Document for Diesel Engine Exhaust* ch. 5 (2002).

vehicles, non-road mobile sources, and international shipping are estimated to cause some 16,000 deaths a year—73% of total transportation-emission-related deaths in the country.[2] Importantly, risks and exposures are not equally distributed, since certain communities and demographic groups face greater harms and impacts from poor air quality. Historically disadvantaged communities are more likely to be located near truck-traffic corridors, more likely to be exposed to vehicle emissions, and more likely to experience higher rates of asthma, lung and heart disease, and chronic bronchitis.[3] Emissions from transportation and goods movement add to the burdens that these communities face. The American Lung Association's 2020 *State of the Air* report finds that people of color are 1.5 times more likely to live in a county with at least one failing air quality grade, and 3.2 times more likely to live in a county with a failing grade for unhealthy ozone days, particle pollution days, and annual particle levels.[4] DEP must therefore ensure, to the extent possible, that its NJ PACT rulemakings prioritize emission reductions in the overburdened communities that have borne a disproportionate share of this pollution.

The impact of transportation and goods movement on New Jersey's air quality, greenhouse gas (GHG) emissions, and public health is particularly striking. A forthcoming study by MJ Bradley and Associates finds that, in the study area surrounding the Port Newark-Elizabeth complex and adjacent residential neighborhoods, the largest sources of PM2.5, black carbon, and NOx are medium- and heavy-duty vehicles (MHDVs), ports-related equipment, locomotives, and idling trucks. Together, these sources far outweigh the emissions from passenger vehicles. Other recent studies confirm that switching from diesel to zero-emission vehicles and equipment makes sense for New Jersey. The American Lung Association estimates that by transitioning to zero-emission vehicles, New Jersey could avoid 169 premature deaths, 2,306 asthma attacks, nearly 11,000 lost work days, and nearly $2 billion in health costs annually.[5] And the North American Council for Freight Efficiency and Rocky Mountain Institute give New Jersey 10 out of a total of 16 points for prioritization of MHDV electrification – with New Jersey scoring the maximum possible points for air quality need, life-cycle GHG emission reduction, and cost savings from switching from diesel to electric.[6] Their analysis shows that if MHDVs in New Jersey switched from diesel to electric, MHDV fuel costs would decrease by 45% and GHG emissions from MHDVs would decrease by 72%.[7]

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[2] Susan Anenberg et al., Int'l Council on Clean Transp., *A Global Snapshot of the Air Pollution-Related Health Impacts of Transportation Sector Emissions in 2010 and 2015*, at 19 tbl.4 (2019), https://theicct.org/sites/default/files/publications/Global_health_impacts_transport_emissions_2010-2015_20190226.pdf.

[3] Jessie Lund & Mike Roeth, N. Am. Council for Freight Efficiency, *High Potential Regions for Electric Truck Deployments* 18 (Aug. 2020).

[4] Am. Lung Ass'n, *The Road to Clean Air* 4 (2020), https://www.lung.org/getmedia/99cc945c-47f2-4ba9-ba59-14c311ca332a/electric-vehicle-report.pdf.

[5] *Id.* at 10.

[6] Jessie Lund & Mike Roeth, N. Am. Council for Freight Efficiency, *High Potential Regions for Electric Truck Deployments Data Analysis* [spreadsheet] (Aug. 2020), https://nacfe.org/wp-content/uploads/2020/08/High-Potential-Regions-for-Electric-Trucks-Data-Analysis-Tool.xlsx.

[7] *Id.*; Jimmy O'Dea, Union of Concerned Scientists, *Ready for Work: Now Is the Time for Heavy-Duty Electric Vehicles* 8 (2019), https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf ("Ready for Work Report").

DEP's proposed regulatory timelines are appropriate and achievable. For example, the proposed timeline for zero-emission MHDV targets, with the first sales targets applying to the 2025 model year, are more than appropriate given the advanced state of zero-emission MHDVs even today. As recognized by the Northeast States for Coordinated Air Use Management (NESCAUM) – of which DEP is a part – the California Air Resources Board (CARB) has certified over 100 zero-emission MHDVs, including school buses, urban buses, intercity buses, utility trucks, tractors, and refuse trucks.[8] Indeed, over 25 manufacturers have zero-emission MHDVs available, including models with ranges over 200 miles.[9] This includes at least a dozen models of delivery vans, shuttles, and straight trucks available today.[10] Manufacturer BYD has already delivered more than 100 battery-electric trucks in the United States, including battery-electric Class 8 Semi trucks.[11] And where necessary, many fossil-fuel-powered heavy-duty trucks can be converted to run with all-electric technology.[12]

Switching to zero-emission MDHVs need not be a financial burden. Over a vehicle's lifetime, many types of zero-emissions commercial vehicles show "undeniable" cost savings compared to diesel trucks.[13] Electric trucks and buses have vastly lower operating and maintenance costs,[14] with some models showing a fuel economy roughly three times that of a conventional vehicle.[15] As noted above, switching from diesel to electric could reduce New Jersey MHDV fuel costs by 45%.[16] Upfront costs, meanwhile, continue to decline, with battery prices predicted to reach $100/kWh (a milestone of upfront cost parity for zero-emission vehicles) by 2024.[17]

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[8] NESCAUM, Comments on Docket ID No. EPA-HQ-OAR-2019-0055, at 12 (Feb. 20, 2020), https://www.nescaum.org/documents/nescaum-anpr-cleaner-trucks-initiative-comments-20200220-final.pdf/.

[9] Ready for Work Report, *supra* note 7, at 8–9.

[10] *Id.; id.* at Appendix, https://www.ucsusa.org/sites/default/files/2019-12/Ready%20for%20Work_appendix.pdf.

[11] Trucking Info, *Anheuser-Busch Receives BYD's 100th Battery-Electric Truck*, Heavy Duty Trucking (Jan. 8, 2020), https://www.truckinginfo.com/348215/anheuser-busch-receives-byds-100th-battery-electric-truck.

[12] *See Hybrid and Plug-In Electric Vehicle Conversions*, U.S. Dep't of Energy, https://afdc.energy.gov/vehicles/electric_conversions.html (last visited Oct. 6, 2020).

[13] Bernd Heid et al., McKinsey & Co., *What's Sparking Electric-Vehicle Adoption in the Truck Industry?* at 4 (2017), https://ackermanmunson.com/wp-content/uploads/2019/06/Whats-sparking-electric-vehicle-adoption-in-the-truck-industry.pdf.

[14] *See, e.g.*, Ready for Work Report at 11–12.

[15] *See* Conner Smith, Atlas Pub. Policy, *Electric Trucks and Buses Overview* 8 (2019), https://atlaspolicy.com/wp-content/uploads/2019/07/Electric-Buses-and-Trucks-Overview.pdf. Fuel savings from electric vehicles can be enhanced even further by optimizing utility rate structures for commercial medium- and heavy-duty charging. *See* Ready for Work Report at 14.

[16] Lund & Roeth, NACFE, *supra* note 6.

[17] *See* Veronika Henze, *Battery Pack Prices Fall as Market Ramps up with Market Average at $156/kWh in 2019*, BloombergNEF (Dec. 3, 2019), https://about.bnef.com/blog/battery-pack-prices-fall-as-market-ramps-up-with-market-average-at-156-kwh-in-2019/; Smith, Atlas Pub. Policy, *supra* note 15, at 2, 4

As for total cost of ownership, NESCAUM notes that "even without taking into account available incentives . . . total cost of ownership parity [for zero-emission MHDVs] is projected for commonly used applications in every vehicle class by 2030, and in many cases before 2025, with steadily declining ZEV costs through 2030," well in line with DEP's timeline.[18] Battery-electric technologies are already cost-competitive with conventional vehicles for many of the most common heavy-duty vehicle applications.[19] In at least one application, electric trucks were found to have a positive cost of ownership compared to a diesel alternative today, without any incentives.[20] By the end of this decade, savings are projected to exceed $200,000 per vehicle for some applications,[21] with life-cycle cost savings projected for a majority of heavy-duty applications.[22] Vehicle-to-grid applications could provide an additional revenue stream for fleet owners while reducing costs for other ratepayers.[23]

Technology for zero-emission cargo handling equipment (CHE) similarly is advancing at a pace to meet DEP's proposed 2031 zero-emission timeframe.[24] Four models of zero-emission yard trucks are available today, with ranges of up to 62 hours.[25] At least one terminal operator reports being "very pleased" with the performance of a battery-electric yard tractor.[26] The Ports of Los Angeles and Long Beach are already using both zero-emission yard trucks and zero-emission container handlers.[27] These ports also plan to have zero-emission rubber-tired gantry

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("Upfront costs of electric buses have come down from almost $1,200,000 in early commercialization periods to roughly $750,000 today."); Ready for Work Report at 11.

[18] Letter from NESCAUM to CARB re: Proposed Amendments to the Proposed Advanced Clean Trucks Regulation (May 26, 2020), https://www.nescaum.org/documents/nescaum-comments-to-carb-re-act-mhd-zev-20200526.pdf/; *see also* Heid et al., McKinsey & Co., *supra* note 13, at 4; Smith, *supra* note 15, at 2, 8.

[19] *See* ICF, *Comparison of Medium- and Heavy-Duty Technologies in California*, Part 2: Total Cost of Ownership Technology Analysis, at 17–18 (2019), ("ICF 2019 Study"), https://caletc.com/comparison-of-medium-and-heavy-duty-technologies-in-california/; Ready for Work Report at 11–12.

[20] CARB, *Advanced Clean Trucks Total Cost of Ownership Discussion Document*, at 22 tbl.14 (draft 2019), https://ww3.arb.ca.gov/regact/2019/act2019/apph.pdf ("CARB TCOE Study"); Smith, *supra* note 15, at 5–6, 9.

[21] *See* Smith, *supra* note 15, at 6–7; CARB TCOE Study, *supra* note 20, at 27 tbl.19; ICF 2019 Study, *supra* note 19, at 19–22, 29–30. The ICF study found that electric vehicles were favorable from a total cost of ownership perspective for almost all heavy-duty classes studied, even without incentives.

[22] *See* ICF 2019 Study, *supra* note 19, at 18 tbl. III-1.

[23] Yang Zhao et al., *Vehicle to Grid Regulation Services of Electric Delivery Trucks: Economic and Environmental Benefit Analysis*, 170 Applied Energy 161 (2016).

[24] *See* DEP, *Cargo Handling Equipment Regulatory Concepts* [PowerPoint] at 7 (Sept. 16, 2019), https://www.nj.gov/dep/workgroups/docs/njpact-air-co2-20200916-cargo-am-pres.pdf.

[25] *See* Ready for Work Report Appendix at 3.

[26] San Pedro Bay Ports Tech. Advancement Program, *2019 Annual Report and 2020 Priorities*, at 14 (Mar. 2020), https://cleanairactionplan.org/documents/2019-tap-annual-report.pdf/.

[27] San Pedro Bay Ports, Clean Air Action Plan Implementation Stakeholder Advisory Meeting Summary 5 (Aug. 3, 2020), https://cleanairactionplan.org/documents/june-24-2020-stakeholder-advisory-meeting-minutes.pdf/; *see also Balqon E-30 Electric Terminal Tractor Development & Demonstration Project*, San Pedro Bay Ports Clean Air Action Plan, https://cleanairactionplan.org/documents/balqon-e-30-demo-2009-summary.pdf/ (last visited Oct. 6, 2020).

cranes and forklifts, and associated charging infrastructure, in use by mid-2021.[28] The Port Authority of New York and New Jersey (PANYNJ) began testing an all-electric straddle carrier at Port of Elizabeth in 2019.[29] Converting these various types of equipment to zero-emission models would end nearly all NOx, PM, and GHG emissions from CHE in PANYNJ's inventory.[30] Thus zero-emission CHE technology exists today, and 2031 is a reasonable goal for full adoption of this current technology throughout New Jersey's ports.

CHP similarly supports DEP's adoption of CARB's forthcoming ocean-going vessel and harborcraft rules.[31] Promising examples of zero-emission or hybrid harborcraft such as ferries[32] and tugboats[33] are in operation or testing across the country. And given that PANYNJ itself calculates that ocean-going vessels are either the first or second largest source of NOx, PM, VOC, and GHG emissions at the port, DEP must do all it can to mitigate or eliminate pollution from this significant emission source.

CHP also urges DEP to adopt California's forthcoming regulations that further limit emissions from transportation refrigeration units (TRUs).[34] TRUs are significant sources of pollutants like diesel PM, NOx, and black carbon, and degrade the air quality at ports,

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[28] *See* S. Coast Air Quality Mgmt. Dist., *Clean Fuels Program 2019 Annual Report & 2020 Plan Update* 21 (Mar. 2020), http://www.aqmd.gov/docs/default-source/technology-research/annual-reports-and-plan-updates/2019-annual-report-2020-plan-update.pdf; Meeting Summary, *supra* note 27, at 5; San Pedro Bay Ports Tech. Advancement Program, *supra* note 26, at 6–9.

[29] Press Release, PANYNJ, First All-Electric Straddle Carrier in the United States Coming to the Port of New York and New Jersey (Jan. 11, 2019), https://www.panynj.gov/port-authority/en/press-room/press-release-archives/2019_press_releases/first_all-electricstraddlecarrierintheunitedstatescomingtothepor.html.

[30] *See* PANYNJ, *2018 Multi-Facility Emissions Inventory*, at 12 fig. 2.1 (Jan. 2020), https://www.panynj.gov/content/dam/port/our-port/clean-vessel-incentive-program/PANYNJ-2018-Multi-Facility-EI-Report.pdf.

[31] *See* DEP, *supra* note 24.

[32] *See, e.g.*, Brian Gauvin, *Alabama River Ferry Reborn with Electric Propulsion*, Prof'l Mariner (Jan. 30, 2020), https://www.professionalmariner.com/alabama-river-ferry-reborn-with-electric-propulsion/; *Current Projects*, Golden Gate Zero Emission Marine, https://ggzeromarine.com/projects/ (last visited Oct. 6, 2020); Jason Deign, *World's Second-Largest Ferry Operator Switching from Diesel to Batteries*, Green Tech Media (Nov. 29, 2019), https://www.greentechmedia.com/articles/read/worlds-second-largest-ferry-operator-switching-from-diesel-to-batteries.

[33] *See* S. Coast Air Quality Mgmt. Dist., *supra* note 28, at 21; Varalakshmi Jayaram et al., *Evaluating Emission Benefits of a Hybrid Tug Boat* (Oct. 2010), https://cleanairactionplan.org/documents/foss-hybrid-tug-development-project-2-evaluating-emissions-benefits-of-a-hybrid-tug-boat-october-2010.pdf/; Foss Mar. Co., *Foss Hybrid Tug Development Project Final Report* (n.d.), https://cleanairactionplan.org/documents/foss-hybrid-tug-development-project-1-final-report.pdf/.

[34] *See* CARB, *Transport Refrigeration Unit Regulation Draft Regulatory Language for Stakeholder Review* (Mar. 12, 2020 Discussion Draft), https://ww2.arb.ca.gov/sites/default/files/2020-07/Draft%20TRU%20Regulatory%20Language_03122020.pdf; CARB, *Preliminary Cost Document for the Transport Refrigeration Unit Regulation* (Aug. 2020), https://ww2.arb.ca.gov/sites/default/files/2020-08/Preliminary%20TRU%20Cost%20Doc%2008202020.pdf.

warehouses, and adjacent neighborhoods.[35] CARB estimates that 8,000 hours of TRU run-time per week cause an approximate cancer risk of 1800 per million at cold-storage warehouses and 600 per million at grocery stores.[36] But implementation of CARB's proposed regulation could reduce that risk by 95–98% by 2031.[37] DEP must follow CARB's lead and adopt regulations to address TRU emissions.

CHP also urges DEP to avoid, to the extent possible, technologies that use so-called "renewable" natural gas or other fossil-gas alternatives (FGAs), especially for vehicle and equipment types for which zero-emission models currently or will soon exist. These technologies represent false solutions to climate mitigation and pose potential environmental injustices for communities at the points of extraction, manufacturing, and transport of these fuel types. Furthermore, the potential supply of FGAs is not sufficient to meet the existing demand for fossil gas.[38] The American Gas Foundation's own estimates show that, after fully ramping up production, FGAs could only supply between 5% and 12% of the current gas demand.[39] And low-carbon gases are significantly more expensive than fossil gas. A report for the California Energy Commission found that "[e]ven under optimistic cost assumptions, the blended cost of hydrogen and synthetic natural gas is 8 to 17 times more expensive than the expected price trajectory of natural gas."[40] DEP should not rely on half-measures like FGAs that delay true zero-emission adoption and are neither technologically nor economically feasible.

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[35] CARB, *Preliminary Health Analyses: Transport Refrigeration Unit Regulation Public Review Draft* ES-2–3 (Oct. 18, 2019), https://ww2.arb.ca.gov/sites/default/files/classic//cc/cold-storage/documents/hra_healthanalyses2019.pdf; CARB, Transport Refrigeration Unit Emissions Inventory and Preliminary Health Analyses Workshop [Presentation] 8 (Oct. 31, 209), https://ww2.arb.ca.gov/sites/default/files/classic//cc/cold-storage/documents/tru_healthanalysisslidesworkshop10312019.pdf.

[36] *Preliminary Health Analyses*, *supra* note 35, at ES-8–9.

[37] *Id.*

[38] Lorne Stockman, Oil Change Int'l, *Burning the Gas 'Bridge Fuel' Myth* 6 (May 2019), http://priceofoil.org/content/uploads/2019/05/gasBridgeMyth_web-FINAL.pdf.

[39] *See* U.S. Energy Info. Admin., *Natural Gas Explained* (last updated July 22, 2020), https://www.eia.gov/energyexplained/natural-gas/use-of-natural-gas.php (noting total U.S. gas consumption in 2019 was 32,000 tBtu); Am. Gas Found., *Renewable Sources of Natural Gas Executive Summary* 2 (Dec. 2019), https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Executive-Summary-Final-12-18-2019-AS-1.pdf (estimating total FGA resource potential in 2040 to be between 1,660 and 3,780 tBtu – and therefore only 5–12% of actual natural gas consumption in 2019).

[40] *See, e.g.*, Cal. Energy Comm'n, CEC-500-2019-055-F, *The Challenge of Retail Gas in California's Low-Carbon Future* 4 (Apr. 2020), https://ww2.energy.ca.gov/2019publications/CEC-500-2019-055/CEC-500-2019-055-F.pdf.

We urge the Department to move forward with the proposed regulatory concepts and we would like to maintain contact with DEP on these issues going forward. CHP looks forward to submitting additional comments during the formal rulemaking processes for these proposals. Thank you for your consideration of these comments.

Sincerely,

Jonathan J. Smith
Jasmine Jennings
Earthjustice
48 Wall Street, 15th Floor
New York, NY 10005
jjsmith@earthjustice.org
jjennings@earthjustice.org

On behalf of:
Coalition for Healthy Ports NY NJ