DIVISION OF AIR QUALITY
AIR QUALITY, ENERGY, AND SUSTAINABILITY

CALIFORNIA ZERO EMISSION FLEETS REGULATION

BUREAU OF MOBILE SOURCES

Stakeholder Meeting - September 10th, 2020
ACRONYMS

- CARB – California Air Resources Board
- NOx – Nitrogen oxides
- PM – Particulate matter
- GHG – Greenhouse gas
- ZEV – Zero emission vehicle
- ZE – Zero emission
- OEM – Original equipment manufacturer
- MY – Model year
- CY – Calendar year
- MD – Medium duty
- HD – Heavy duty
- CNG – Compressed natural gas
- LNG – Liquified natural gas
- LPG – Liquified petroleum gas
- DAC – Disadvantaged communities (CA’s term for environmentally overburdened areas)
- NZEV – Near zero emission vehicle
- BEV – Battery electric vehicle
- FCEV – Fuel cell electric vehicle
CARB STRATEGIES FOR MEDIUM AND HEAVY VEHICLES

1. Advanced Clean Truck (ACT) regulation – requires OEMs to sell ZEVs.
2. Heavy-Duty Engine and Vehicle Omnibus regulation – establishes more stringent NOx emissions standards for new engines.
4. Drayage Trucks at Seaports and Railyards – directs a transition to zero emission operations at ports.
OVERVIEW

1. What strategies are we considering?
2. What is the Zero Emission Fleets regulation?
3. Questions and discussion.
California is developing a strategy to require electrification of fleet vehicles.

- They are only in the initial, pre-proposal, stage of this regulatory concept.
- Public workshop - February 12, 2020
- Public workshop – September 18, 2020

New Jersey could consider adoption by reference of relevant sections of the California Code of Regulations once finalized.
Zero-Emission Regulatory Concepts

- Phase-in ZEV purchases
- EMA Proposal - 100% ZEV purchases by truck segment
- ZE fleet standards
- Green contracting
- ZE zones
- Facility requirements
- ZE miles standard
Phase-in ZEV Purchases

- Ramp up ZEVs as a percent of normal purchases by calendar year
  - No accelerated replacements
- Questions to consider
  - How to maximize ZEVs for different vehicle/fleet types
    - Level playing field, match fleet needs, infrastructure
  - When/how to set 100% ZEV purchase requirement for simplicity
  - How to benefit DACs
  - How to guard against pre-buys or delayed purchases
Model Year Requirements - EMA Proposal

- Require 100% ZE sales/purchases in market segments by model year
  - 2023 – School buses and municipal stepvans
  - 2024 – Public utility vehicles and yard tractors
  - 2025 – All stepvans, airport service vehicles, non-airport shuttle buses
  - 2026 – All refuse trucks
  - 2027 – Concept continues for other segments

- Questions to consider
  - How do you maximize ZEV deployments
  - How do you address segments not yet ready for 100% sales
  - How do you ensure benefits in DACs (tractors or other)
  - How to guard against pre-buys or delayed purchases

ZE Fleet Standard

- ZEVs must make up percentage of fleet by milestone dates
  - Report body type and fuel type annually
- Questions to consider
  - How to set goals to maximize ZEVs for different fleets, vehicle types or market segments
  - What fleet definition for level playing field
  - How to ensure benefits in DACs
  - Any unintended consequences
Green Truck Contracting

- Requires large entities to hire fleets that meet a voluntary ZE Fleet Standard
  - May include retailers, wholesalers, public agencies, brokers, terminal operators, motor carriers…
  - Certified fleets would be listed on CARB webpage
- Questions to consider
  - Will demand for ZE fleets maximize ZEV deployments
  - How do you achieve benefit in DACs
  - How to track and audit contract agreements for enforcement
  - Leaves door open for funding fleets if needed
  - Are there unintended consequences

Maximize ZEVs, benefit DACs, simplicity, match fleet needs, expand infrastructure access, level playing field, unintended consequences.
Zero-Emission Zones

- Geographic boundaries surrounding targeted areas
- Only ZEVs or fleets meeting the ZE Fleet Standard may enter ZE zone
  - Ports, rail yards, warehouse hubs, city boundaries, disadvantaged communities, air basin, or other
- Questions to consider
  - How and when to transition to a pure ZE zone
  - How to determine locations and boundaries to benefit DACs
  - How to ensure feasibility for all fleets (small and large)
  - How to address differences for drayage vs long-haul tractors
  - How to ensure compliance and enforcement during transition
  - Any unintended consequences
Facility Requirements

- Facilities that receive trucks must install infrastructure for ZEVs
  - Install H2 stations or chargers at stores, ports, railyards, warehouses, or other hubs with sufficient dwell time
  - Workplace charging

- Questions to consider
  - Can this complement other strategies to maximize ZEVs
  - How to determine which sites appropriate for infrastructure
  - Are there other ways facilities can attract ZEV trucks into DACs
ZE Miles Standard

- Set fleet ZE mile targets based on metrics
  - Energy use, miles travelled, ton-miles
- Questions to consider:
  - How to maximize ZEVs and benefits in DACs
  - How to match fleet needs and maintain level playing field
  - Can the same metric work for all truck types and uses
  - Is there simple way to track and report data
  - How to address fluctuations in truck use
    - Contracts, economy, or other issues beyond fleet’s control
Early Market Segments for Focus

- Drayage and intermodal
- First/last mile delivery
- Private bus/shuttle operators
- Refuse services
- Public agencies
- Utility providers
- Others to be identified
Drayage & Intermodal Fleets

- Goal to achieve 100% ZE fleet by 2035
- Trucks that service ports, inland ports, railyards (23,000 statewide)
- Major emission sources in disadvantaged communities
- Opportunities for shared, centralized infrastructure
- Significant number of owner-operators
First and Last Mile Delivery/Services

- Goal to achieve 100% ZE fleet by 2040
- Parcel, food, beverage, linen services, home/residential delivery, other
  - Initial population estimate – 80,000
- Return to base, predictable routes
- Large ZEV purchases from UPS, FedEx, and Amazon
Buses and Shuttle Buses

- Goal to achieve 100% ZE fleet by 2040
- Employee shuttles, motor coaches, other buses
- About 25,000 beyond transit and ASB
- Wide range of ZE buses commercially available
- Long distance motor coaches requires further study
Refuse Services

- Goal to achieve 100% ZE fleet by 2040
- Garbage, recycling, compactor and roll-off trucks, and other
  - About 16,000 vehicles (mostly Class 7-8)
  - Transfer trucks require further study
- Owned by or under contract with municipalities
- Return to base, predictable routes, operate in neighborhoods
- City of Los Angeles committed to 100% ZE refuse by 2035
Public Fleet Vehicles

- Goal to achieve 100% ZE capable fleet by 2040 including NZEVs
- Public fleets to lead the way for work trucks
- Diverse vehicle weight classes and body types
  - About 100,000 in Class 2b-8
  - Mostly variable use, low miles, and operate locally
- Different budget and funding issues than private
- Specialized vehicles and emergency use considerations
- No plans to require ZEV school buses
Private Utility Fleets

- Goal to achieve 100% ZEcapable fleet by 2040 including NZEVs
- Electricity, water, sanitation, telecommunications
- Diverse fleet of weight classes and body types
  - Some specialized equipment
- Operate regionally, some vehicles have long dwell times at jobsites
- Occasional long distance, or rapid response/emergency operation
What About ZEVs in Other Segments

- Need to include other truck types and market segments to meet 100% ZEV goal by 2045
  - Role for NZEVs with all-electric range
  - Requires substantial on infrastructure build-out
- Work trucks, service trucks, vans and other
- Short haul, regional, long-haul tractors
  - Largest heavy-duty emissions category
- Considerations for specialized equipment and uses
- How/when to bring in smaller fleets
STAKEHOLDER FEEDBACK OPPORTUNITIES

• Are there any questions about this material?

• Specific issues for consideration and discussion are on subsequent slides.
DISCUSSION ISSUES

• Issues for discussion:
  • Strategy
    • Is a fleet ZEV requirement a good fit for NJ?
    • What are the most significant hurdles?
    • Is there another way to achieve the goal of large-scale commercial transportation electrification?
  • Schedule
    • Unknown as not yet proposed by CARB.
  • Industry assistance
    • Can industry organizations help us with outreach and education?
  • Enforcement
    • How would this be enforced?
    • Who is the regulated entity?
      • We don’t currently collect data from or regulate vehicle fleets.
Please send comments and/or technical support information to:

njairrulesmobile@dep.nj.gov

Use the following heading in the subject line of the email:

California Zero Emission Fleets regulation

By September 24, 2020