DIVISION OF AIR QUALITY
AIR QUALITY, ENERGY, AND SUSTAINABILITY

DRAYAGE TRUCK REGULATORY CONCEPTS

BUREAU OF MOBILE SOURCES

Stakeholder Meeting - September 10, 2020
OVERVIEW

1. What concepts are we considering
2. The NJ drayage fleet and their emissions
3. How the concept would work
4. Electric drayage truck options from the industry
5. Answer questions and discuss issues
CONCEPTUAL PROPOSAL

• California is developing updated regulations to require electrification of the drayage fleet.
• Once adopted by California, New Jersey could adopt by reference relevant sections of the California Code of regulations.
Drayage trucks serve the ports generally making several short trips per day moving containers between ships and area warehouse and distribution centers.

- Data indicate over 12,000 trucks visit the port daily.
- Over 5,800 of these are pre-2010.
- Unlike CA, the NJ drayage fleet is largely made up of individual owner/operators rather than fleets.
DRAYAGE FLEET INVENTORY
CONTRIBUTIONS AT THE PORT – THE DRAYAGE FLEET

PANYNJ 2018 VOC TPY
- OGV 36%
- HDDV 38%
- Rail 7%
- CHE 14%
- HC 5%

PANYNJ 2018 CO TPY
- OGV 20%
- HDDV 42%
- Rail 5%
- CHE 23%
- HC 10%

PANYNJ 2018 NOx TPY
- OGV 44%
- HDDV 34%
- Rail 6%
- CHE 8%
- HC 8%

PANYNJ 2018 PM2.5 TPY
- OGV 25%
- HDDV 45%
- Rail 6%
- CHE 16%
- HC 8%
GHG FROM DRAYAGE FLEET

PANYNJ 2018 CO2e TPY

- Heavy-Duty Diesel Vehicles: 50%
- Ocean-Going Vessels: 25%
- Cargo Handling Equipment: 17%
- Railroad Locomotives: 4%
- Harbor Craft: 4%

PANYNJ 2018 CO2e TPY
DRAYAGE TRUCK IMPACTS

• Over 12,000 trucks visit the port daily
• Numerous residential neighborhoods surrounding port impacted
• Adverse health effects at much higher rates in these areas
CARB’S APPROACH

• Current CA regulations limit the age and emissions technology of trucks calling on the port to 2007 specifications
• CARB has just begun development of updated regulations that will (likely) require drayage trucks to transition to all-electric ZEV technology
  • A phase in schedule starting in 2024 is projected
  • Likely to require a full transition by 2030
ELECTRIFICATION BENEFITS

• Eliminate local truck emissions, especially PM2.5 and its associated health impacts
• Reduce total GHG emissions
WHAT TYPES OF TRUCKS ARE CURRENTLY SUITABLE FOR ELECTRIFICATION?

- Most suited for urban driving
- More efficient in stop-and-go
- In use with many local fleets
- Work well on predictable routes
- Recharge when return to base
ARE ANY ZERO-EMISSION TRUCKS COMMERCIALY AVAILABLE?

- Over 70 models currently available
- Most offer over 100-mile range > drayage routes
- More offerings each year
- Range keeps increasing
MEDIUM- AND HEAVY-DUTY ZEV MODEL AVAILABILITY EXPANDING

Vehicle Type

- Cargo van
- HD truck
- MD step van
- MD truck
- Refuse truck
- School bus
- Shuttle bus
- Transit Bus
- Yard tractor

Number of Available Models

- FCEV
- BEV

Credit to CARB
Many major manufacturers have plans to enter the ZEV market prior to 2024
• Cummins, Ford, Freightliner, Mack, Navistar, Mitsubishi Fuso, Peterbilt, Tesla, Volvo have announced plans for commercial products

Image source: Ford, Cummins, Mack, Trucks.com
MAJOR SUPPLIERS AND SERVICE PROVIDERS ENTERING MARKET

- Established suppliers entering ZE truck supply chain
  - Partnering with existing ZE vehicle/drivetrain manufacturers
  - Numerous demonstrations underway
- Established companies servicing, distributing, training, leasing ZE trucks
• Higher upfront costs but lower operating costs than conventional trucks.

• Total cost of ownership can be comparable to conventional trucks for certain duty cycles without grants or rebates.

• As battery prices fall and technology continues to improve, the total cost of ownership is expected to become more favorable.

• Incentives are currently available to offset some of the early infrastructure costs.
POTENTIALLY REGULATED PARTIES

- Port trucking contractors
- Truck brokers
- Large fleet owners
• Assume CA will do a phase in
  • Oldest trucks to be replaced with EVs first?
  • Large fleets first? (there aren’t many of these in NJ)
  • Initial requirements in ## years to allow for charging infrastructure installation (CA projecting 2024 for initial requirements)
  • Fully electric by 2030
DISCUSSION ISSUES

• Issues for discussion:
  • Schedule
    • How much lead time would the industry need?
  • Implementation issues
    • Charging infrastructure
  • Regulated parties
    • Are contractors and brokers in the best position to comply?
    • Should owner/operators be included?
  • Industry assistance
    • Outreach and education
  • Enforcement
Please send comments and/or technical support information to:

NJAirrulesmobile@dep.nj.gov

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

By September 24, 2020