

# OTC Mobile Sources Committee Overview

## OTC-MANEVU Stakeholders Meeting

### October 2, 2024

## Mobile Sources Committee

Chair, Paul Farrell, CT Department of Energy and Environmental Protection



# OZONE TRANSPORT COMMISSION

# Presentation Overview

## MSC 2024 Charge

- ✓ Medium- and heavy-duty trucks.
- ✓ Tampering and aftermarket catalysts.
- ✓ Cross-committee coordination.
- ✓ Provide technical and policy support where needed, as resources allow.

# Medium and Heavy-Duty Trucks

## Update on Activities:

- Review emissions benefits from the EPA HD Phase 3 GHG Final Regulation:
  - Published in the Federal Register on April 22, 2024.
  - EPA estimates the rule will reduce HDV NO<sub>x</sub> nationally by 3% in 2035, 16% in 2045, and 20% in 2055.
  - Note that EPA changed its baseline to account for ZEVs in the market.

Pollutant	CY 2035 Reductions		CY 2045 Reductions		CY 2055 Reductions	
	U.S. Tons	Percent	U.S. Tons	Percent	U.S. Tons	Percent
Nitrogen Oxides (NO <sub>x</sub> )	10,801	3%	47,027	16%	54,268	20%
Particulate Matter (PM <sub>2.5</sub> ) <sup>A</sup>	126	2%	302	5%	331	5%
Volatile Organic Compounds (VOC)	3,014	6%	6,426	17%	7,242	20%
Sulfur Dioxide (SO <sub>2</sub> )	126	9%	256	19%	270	20%
Carbon Monoxide (CO)	49,273	6%	117,155	17%	131,014	19%
1,3-Butadiene	7	11%	14	27%	14	27%
Acetaldehyde	62	6%	138	17%	160	17%
Benzene	38	8%	80	22%	82	25%
Formaldehyde	41	4%	100	14%	126	15%
Naphthalene <sup>B</sup>	3	5%	6	22%	6	23%

Source: EPA Phase 3 Regulatory Impact Analysis, 2024

<https://www.epa.gov/system/files/documents/2024-03/420r24006.pdf>

# Medium and Heavy-Duty Trucks

## Phase 3 (continued):

- Comparing expected ZEV introduction and emissions benefits with the ACT regulation.

### Vocational Vehicles

MY	ACT ZEV Sales Mandate		Phase 3 Projected % ZEV Adoption Rate		
	Class 2b-3	Class 4-8 Vocational	Light HD Vocational	Medium HD Vocational	Heavy HD Vocational
2024	5%	9%	-	-	-
2025	7%	11%	-	-	-
2026	10%	13%	-	-	-
2027	15%	20%	17%	13%	0%
2028	20%	30%	22%	16%	0%
2029	25%	40%	27%	19%	13%
2030	30%	50%	32%	22%	15%
2031	35%	55%	46%	31%	23%
2032	40%	60%	60%	40%	30%
2033	45%	65%	-	-	-
2034	50%	70%	-	-	-
2035+	55%	75%	-	-	-

### Tractors

MY	ACT ZEV Sales Mandate	Phase 3 Projected % ZEV Adoption Rate	
	Class 7-8 Tractors	Medium HD All Cab & Heavy HD Day Cab Tractors	Sleeper Cab Tractors
2024	5%	-	-
2025	7%	-	-
2026	10%	-	-
2027	15%	0%	0%
2028	20%	8%	0%
2029	25%	12%	0%
2030	30%	16%	6%
2031	35%	28%	12%
2032	40%	40%	25%
2033	40%	-	-
2034	40%	-	-
2035+	40%	-	-



# Medium and Heavy-Duty Trucks

## Update on Activities:

- Eastern Research Group analysis of RI MHD diesel truck OBD-based inspection and maintenance (I/M) program:
  - Estimated the NO<sub>x</sub> and PM<sub>2.5</sub> emissions benefit of MHD OBD-based I/M program.
  - Incorporated data into MOVES and run the MOVES model to estimate changes in the inventory.
  - Monetized the health benefits associated with the reductions.
  - Estimated truck repair costs.
  - ERG presented the results to the MSC in August.
  - ERG provided a spreadsheet tool that states can use to estimate costs and benefits for their state MHD IM programs.

# Tampering Update

## Update:

- State MHD OBD-based programs:
  - MA and DE conducting MHD and medium-only OBD testing;
    - Tampering detection is a component of these programs;
  - NJ piloting a commercial tampering detection tool. Testing 100 HD trucks.
    - 15% of class 4-8 trucks had complete deletes (no emission controls)
    - Testing continues
    - Other states may participate in pilot
    - Coordinating with EPA OTAQ to gather data on tampering frequency and emissions so we can estimate the impact in the region



# Tampering Update (Continued)

- The MSC Tampering Resolution was approved by Commissioners in June.
- States committed to work together and with EPA to strengthen tampering detection and enforcement programs.
- Estimate the incidence of tampered MHD vehicles and excess NOx emissions from tampering.
- Resolution posted on OTC website.

# Cross Committee Collaboration

## Update

- Providing information on:
  - EPA's LD/MD multipollutant regulation.
  - EPA's HD Phase 3 GHG regulation.
- The MSC will coordinate with the Modeling Committee as the new platform is changed to include the updated MOVES model.



# As Resources Allow:

- The MSC finalized its aftermarket catalyst model rule update.
- The MR is posted along with responses to stakeholder comments.

# As Resources Allow:

- The MSC evaluated information from EPA on its light- and medium-duty multipollutant regulation.
- The regulation is projected to reduce NOx from LD /MD vehicles by 21% in 2055.

<b>Pollutant</b>	<b>Reference Scenario (tons/yr)</b>	<b>Policy Scenario (tons/yr)</b>	<b>Change in Emissions (tons/yr)</b>	<b>Percent Difference</b>
PM <sub>2.5</sub>	34,667	26,342	-8,325	-24%
NO <sub>x</sub>	403,861	319,169	-84,692	-21%
SO <sub>2</sub>	6,458	4,124	-2,334	-36%
VOC	502,643	337,484	-165,159	-33%

Source: EPA RIA for the LD/MD Multipollutant Regulation,  
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1019VPM.pdf>

# As Resources Allow: Biodiesel Emissions

- On 4/29 the MSC sent EPA a letter requesting EPA update its models to accurately reflect biodiesel emissions.
- In June, OTC commissioners approved a biodiesel resolution that restates the requests in the April 29<sup>th</sup> letter to EPA.
- EPA responded that they are looking into the issue.
- Clean Fuels Alliance presented to the MSC on ASTM specs noting CARB is not seeking any fuel quality changes to B20.

# Summary and Discussion

## **Medium- and Heavy-duty Trucks**

Oversaw study of the emission benefits of MHD I/M programs.  
Evaluating EPA Phase 3 final rule emissions benefits.

## **Anti-Tampering**

Followed state pilot to identify tampered HD vehicles.  
Finalized Tampering Resolution.  
Followed EPA pilot to evaluate tampering detection tools.

## **Cross Committee Collaboration**

Coordinating with the Modeling Committee on modeling and NOx reductions from the federal and CA rules.

## **Technical Support on Policy Where Needed**

Finalized aftermarket catalyst MR update.  
Sent letter to EPA on the need to re-assess biodiesel emissions.  
OTC posted biodiesel statement.  
Evaluated LD/MD Multipollutant final regulation.  
Follow nonroad regulatory developments.



Thank you!

## Mobile Sources Committee

Chair, Paul Farrell, CT Department of Energy and Environmental Protection



OZONE TRANSPORT COMMISSION