OTC Mobile Source Committee Overview
OTC and MANE-VU Stakeholders Meeting
April 14, 2022

Mobile Sources Committee

Chair, Kelly Crawford, D.C. Department of Energy and Environment





OZONE TRANSPORT COMMISSION

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Presentation Overview

MSC 2021 Charge

- ✓ Evaluate and comment on EPA HD engine and vehicle emission standards NPRM
- ✓ Finalize modeling of state adoption of CARB Omnibus regulation
- ✓ Provide technical and policy analysis to the MHD ZEV regional initiative
- ✓ Support state efforts to identify tampered vehicles
- ✓ Assess OTC states' authority to enforce against tampering
- ✓ Coordinate with EPA as it implements its Tampering Policy

Additional Focus Areas

- ✓ Cross Committee Workgroup on Inventory
- ✓ Provide technical and policy support where needed on telework, potential ozone benefits from cap and invest programs, light-duty electric vehicles, allocation of VW settlement funds, or other issues identified by the OTC Air Directors

2021 Charge: Medium- and Heavy-Duty Trucks EPA NPRM

Actions:

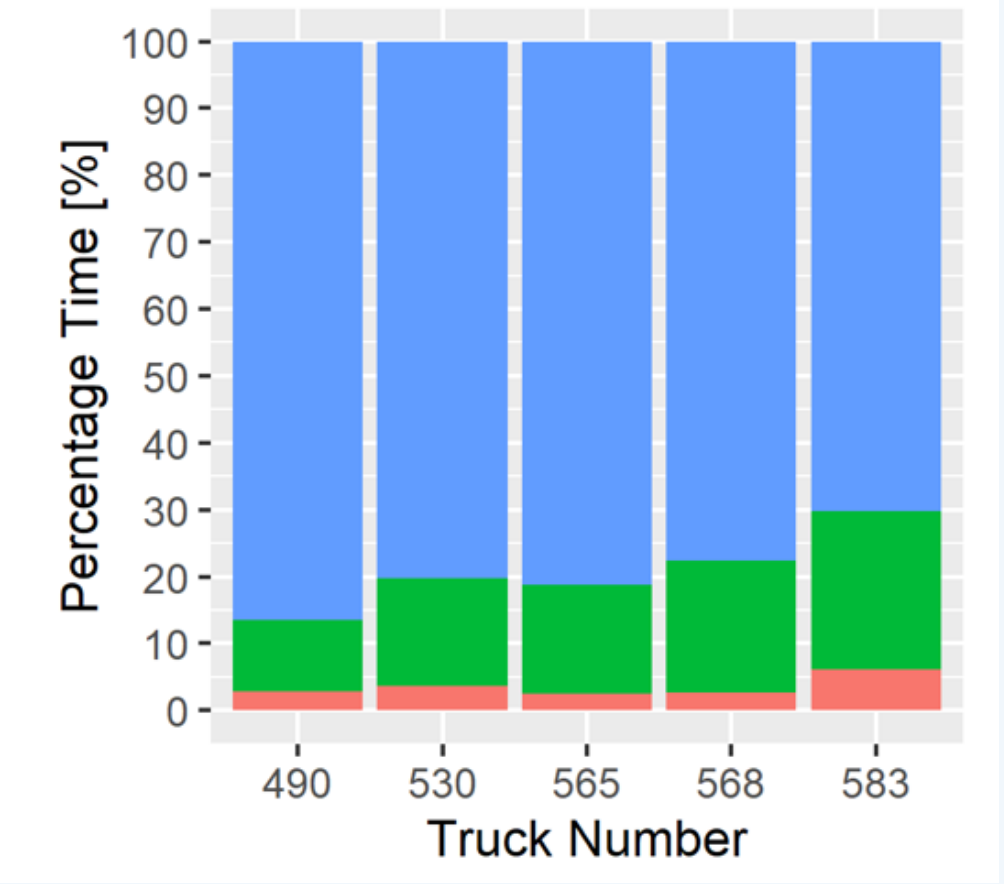
- The MSC in conjunction with MANE-VU TSC is developing joint OTC & MANE-VU comments on EPA's heavy-duty engine and vehicle emission standards Notice of Proposed Rulemaking.
- Background information is being updated and technical comments developed.
- Comments will be submitted on May 13th.

Comparison of MY 2027-30 HD Engine and Vehicle Standards

Test Procedure	EPA Option 1	CARB Omnibus intermediate useful life	CARB Omnibus full useful life	EPA Option 2
FTP/SET/RMC cycles	35 mg/hp-hr	0.020 g/hp-hr	0.035 g/hp-hr	50 mg/hp-hr
Low load cycle	90 mg/hp-hr	0.050 g/hp-hr	0.090 g/hp-hr	100 mg/hp-hr
Idle	5 g/hr (optional)	5 g/hr		10 g/hr (optional)

MANE-VU/NESCAUM Class 8 Tractor Data Logging

- Truck operation shown in the graph segmented by load type.
- Low load is represented in the green color.
- Low load operation represented from 10% to 40% of NOx emitted from the trucks.
- NOx sensors were inactive for part of the time. And this is not accounted for in the graph.



Heavy-Duty Trucks EPA NPRM – Next Steps

Next Steps:

- Complete and submit NPRM comments.
- Follow development of final EPA rule.
- Additional coordination between OTC committees:
    - Discuss possible BenMAP modeling with the OTC Modeling Committee.
    - Discuss source apportionment data with the Modeling Committee.

Related Work: Modeling Omnibus Adoption

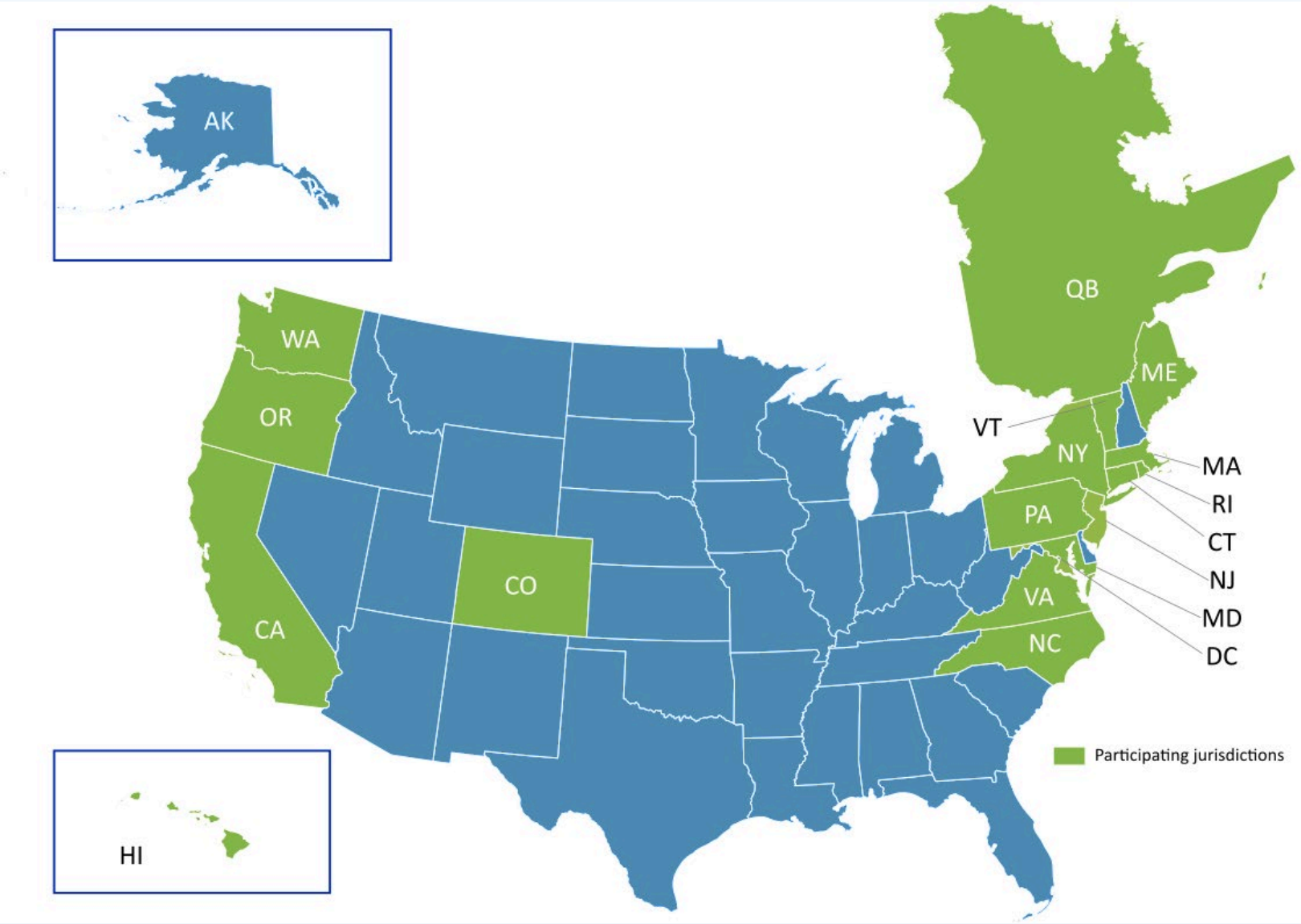
- The OTC MSC coordinated with the International Council on Clean Transportation (ICCT) and Sonoma Technology on MOVES3 modeling of Omnibus adoption in the OTR.
- Results for 11 jurisdictions are final and two states are in process. Results for remaining states are expected in May.
- The Modeling Committee conducted air quality modeling of a scenario where heavy-duty truck NOx emissions was reduced by 90%.

2021 Charge: MHD ZEV Technical Support

- MOU was signed July 14, 2020
- Additional jurisdictions have since signed on
- 18 signatories: California, Connecticut, Colorado, District of Columbia, Hawaii, Maine, Maryland, Massachusetts, New Jersey, New York, Nevada, North Carolina, Oregon, Pennsylvania, Quebec, Rhode Island, Vermont, Washington

- OTC-NESCAUM through its partnership with ICCT modeled the NOx reductions resulting from MOU implementation to assist MOU signatory states.
- In addition, ICCT modeled ACT adoption in signatory jurisdictions.
- ACT adoption is included in the MHD ZEV Action Plan.

Map of MHD ZEV MOU Signatories



- 42% of the U.S. population
- Nearly 50% of the U.S. economy
- Over 35% of Class 2b-8 vehicles
- Over 40% of goods (by value) moved by truck in the U.S.
- Represent diverse geographic areas

Not including Quebec.

Census Bureau, *2020 Population and Housing State Data*, https://www.census.gov/library/visualizations/interactive/2020-population-and-housing-state-data.html (2020)

Bureau of Economic Analysis, *GDP and Personal Income*, https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1 (2020 Real GDP)

Atlas Public Policy, *EV Hub*, https://www.atlasevhub.com/materials/medium-and-heavy-duty-vehicle-registrations-dashboard/#06f2a5dfc39daf9cc (2020) (IHS market data)

National Transportation Research Center, *Freight Analysis Framework 5*, https://faf.ornl.gov/faf5/SummaryTable.aspx (2020)

NESCAUM

2021 Charge: Anti-tampering

Action:

- Engaged with EPA on incorporating tampering into the MOVES Model.
- Finalized a report on diesel inspection and maintenance best practices to assist states in developing robust diesel I/M programs.
- The study provides information on:
  - Tampering detection
  - Training of inspectors
  - Software system information
  - Quantification approach for tampering-related emissions

Tampering Authority Matrix

- Purpose of the matrix is to compile information on authority to enforce against tampered vehicles in the OTC states.
- Will allow states to:
  - Identify gaps in authority to enforce.
  - Look at successful practices in other states.
  - Provide basis for discussion on improving authority.

Tampering Authority Matrix

State	Duty Cycles	Fuel Type	Program Type	Geographic Extent	AT Inspecting Entity	AT Regulatory Reference	AT Regulatory Authority	Right to Entry Authority	Right to Entry Enforcement Entity	Right to Entry Regulatory Reference
PA	LD, MD, HD	Any conventional fuel	Decentralized	Statewide	State Police	None	75 Pa. C.S.A. Section 4531	No	No	N/A
PA	9,000 lb or less	Gasoline	Decentralized	other	Licensed Inspection Stations	Pa Code Title 67 Chapter 177	75 Pa C.S. Sections 4103, 4531, 4701, 4706, 4707, 4710, 6103 and 9104	No	No	N/A
PA	11,000 lb or less	Gasoline	Decentralized	other	Licensed Inspection Stations	Pa Code Title 67 Chapter 175.80(d)	75 Pa. C.S. Section 4702	No	No	N/A
VT	LD, MD, HD	Any conventional fuel	Centralized	Statewide	DEC	Vt. Code R. § 12-031-001:5-701, 5-702	10 V.S.A. § 567	Yes	DEC	10 V.S.A. § 557
VT	LD, MD, HD	Any conventional fuel	Decentralized	Statewide	Licensed Inspection Stations	Vt. Code R. § 14-050-022	23 V.S.A. § 1222, § 1001, § 1229	Unknown	Unknown	
VT	LD, MD, HD	Any conventional fuel	Decentralized	Statewide	Licensed Inspection Stations	Vt. Code R. § 12-031-001:5-703	10 V.S.A. § 567	yes	DEC	10 V.S.A. § 557
VT	MD, HD	Diesel	Centralized	Statewide	DMV/Law Enforcement	Vt. Code R. § 14-050-052	23 V.S.A. §§1222a , 1229	Unknown	Unknown	
NJ	LD	Any conventional fuel	Centralized	Statewide	Gov-Non Gov	NJAC 7:27-14.3(e) and NJAC 7:27-15.7	NJDEP	Yes	DEP personnel with enf badge	NJSA 26:2C-9.1/NJAC 7:27-1.31/NJAC 7:27A-3.7
NJ	MD	Any conventional fuel	Decentralized	Statewide	Gov DEP	NJAC 7:27-14.3(e) and NJAC 7:27-15.7	NJDEP	Yes	DEP personnel with enf badge	NJSA 26:2C-9.1/NJAC 7:27-1.31/NJAC 7:27A-3.7
NJ	HD	Any conventional fuel	Centralized	Statewide	Gov-Non Gov	NJAC 7:27-14.3(e) and NJAC 7:27-15.7	NJDEP	Yes	DEP personnel with enf badge	NJSA 26:2C-9.1/NJAC 7:27-1.31/NJAC 7:27A-3.7
MD	LD, MD, HD	Any conventional fuel	Centralized	Statewide	Compliance Program	COMAR 16.11.20.02	Environment Article	Yes	MDE Compliance Program	Environment Article
NY	MD, HD	Diesel	Decentralized	Non-attainment counties	NYSDEC	6NYCRR-NY 217-5.4, 217-5.5, 217-5.7, 218-6.2, 218-7.2, 218-7.4; 15NYCRR 79.26	Environmental Conservation Law, §§3-0301, 19-0105, 19-0301, 19-0303, 19-0305, 19-0320, Vehicle and Traffic Law, §§301[c], 375.28	Yes	NYSDEC	NYCRR Part 217-5.7, 218-2.3(a) / ECL 19-0305
NY	LD, MD	Any conventional fuel	Decentralized	Statewide	NYVIP	6NYCRR-NY 218-2.1, 218-6.2, 218-7.2, 218-7.4	Environmental Conservation Law, §§3-0301, 19-0105, 19-0301, 19-0303, 19-0305; Vehicle and Traffic Law, §§301[c], 375.28	Yes	NYVIP	NYCRR Part 218-2.3(a) / ECL 19-0305

Tampering (Continued)

Additional Workgroup Activities:

- Developed data dictionary for tampering authority matrix.
- Researching information for recommendations to EPA on a phase-out of the 1986 Catalyst Policy.
- Hearing from OTAQ staff on data collection methods at a tampering workgroup meeting.

As Resources Allow

- Charge language: Provide technical and policy support where needed on telework, potential ozone benefits from cap and invest programs, light-duty electric vehicles, allocation of VW settlement funds, or other issues identified by the OTC Air Directors.
- Action: The Mobile Sources Committee will work with the Modeling Committee to evaluate additional opportunities for technical analyses on light-, medium-, and heavy-duty electric vehicles this year.
- Action: The Mobile Sources Committee participated in the OTC cross-committee on inventory and provided input on data collection for the mobile sources inventory. Individual states provided input to EPA as a result of this effort.

Recap and Discussion

Heavy-duty vehicle NOx

- EPA NPRM published on March 28th.
- Comments are due on May 13th.
- MSC developing a comment letter to EPA on the NPRM.

MHD ZEV

- Modeling for Delaware and Virginia adoption of ACT and Omnibus is being conducted as part of the OTC-NESCAUM-ICCT partnership.
- Emission results will be available May 2022.

Anti-Tampering

- The diesel inspection and maintenance best practices paper has been finalized.
- A tampering authority matrix has been completed.
- MSC will continue its dialogue with EPA on tampering issues.

Additional items

- The MSC will seek opportunities to provide support to states on MHD and LD ZEV and other efforts.
- The MSC participated in the cross-committee workgroup on inventory.