South Coast AQMD

Proposed Rule 2304
Indirect Source Rule for Commercial Marine Ports – Container Terminals

Working Group Meeting

Technical Discussion on Drayage Trucks, Locomotives, and Harbor Craft

February 28, 2024, 9:00 AM PST

Port of Long Beach
1st Floor Multipurpose Room
415 W. Ocean Blvd.,
Long Beach, CA 90802

Agenda

- Introductions and Opening Remarks
- Staff Presentation
- Breakout Session – Drayage Trucks
- Report Back Out and Group Discussion
- Break
- Breakout Session – Locomotives
- Report Back Out and Group Discussion
- Break
- Breakout Session – Harbor Craft
- Report Back Out and Group Discussion
- Closing Remarks

Working Group Meeting Focus: Strategies to Further Reduce Emissions at the Ports

Further emission reductions are needed at the Ports

- Goal of holding this series of Working Group Meetings is to discuss potential strategies that can achieve additional emission reductions from port sources

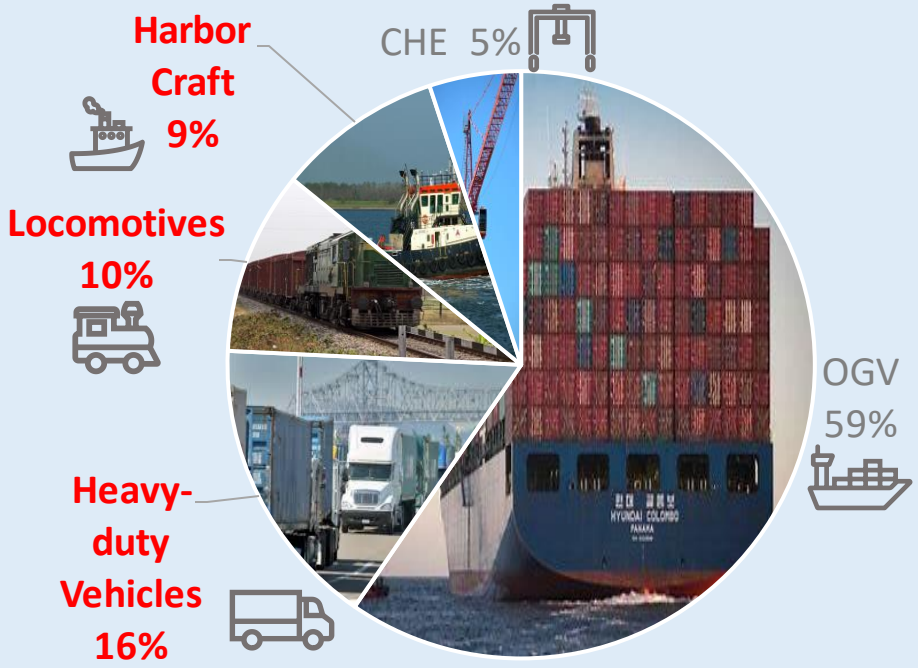
Important to obtain technical stakeholder feedback on strategies

Discussion today:

- Breakout groups to discuss mechanisms to further reduce drayage truck, locomotive, and harbor craft emissions at the San Pedro Bay Ports
- Technical details focusing on constraints, opportunities, and community benefits and impacts

Port Source Emissions at San Pedro Bay Ports

Diesel Particulate Matter Emissions
Average Daily Total: **0.59 tons**

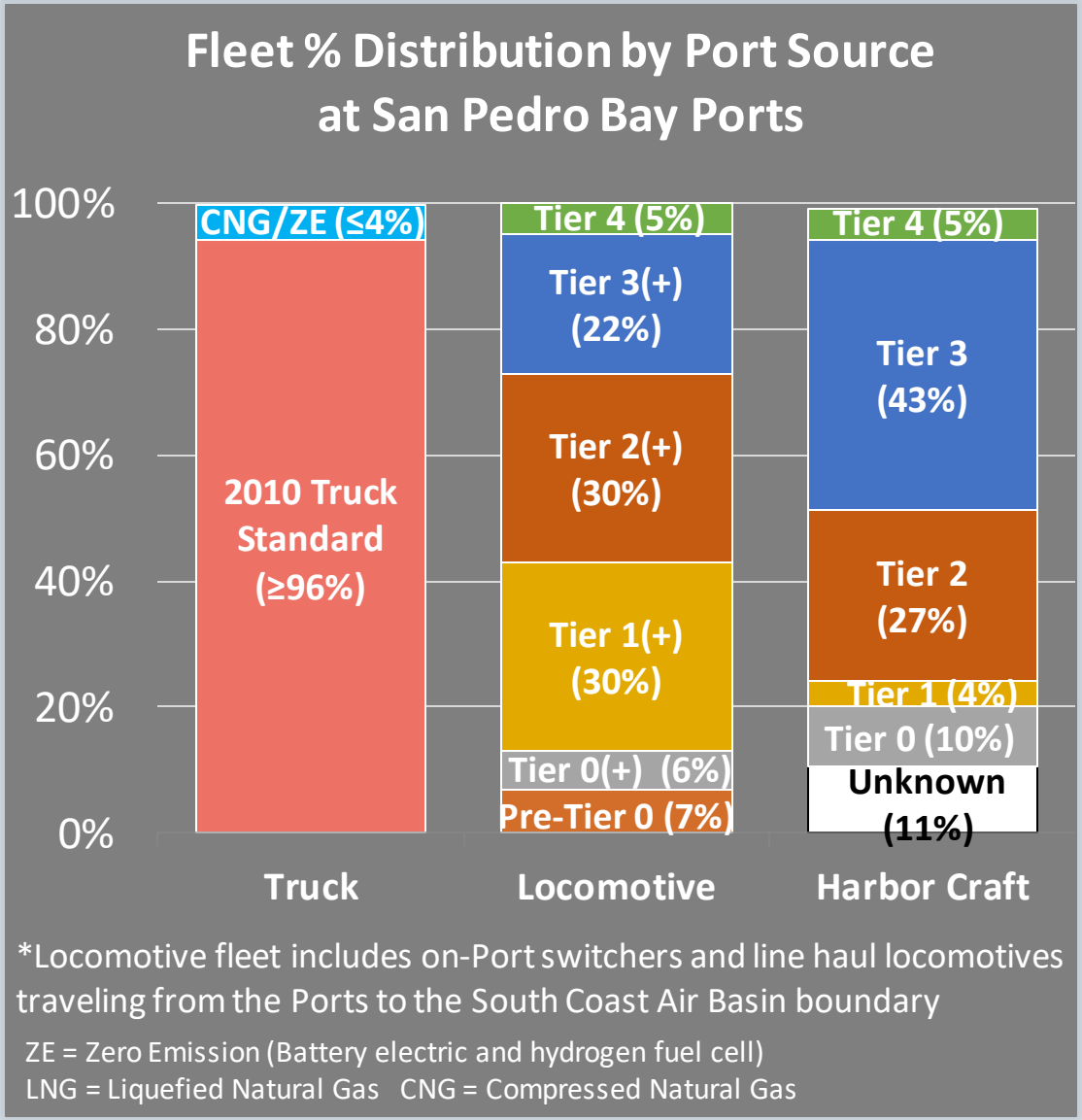


NOx Emissions
Average Daily Total: **36 tons**

13 – 20% of the total NOx emissions (tpd) in the South Coast Air Basin are from Port sources

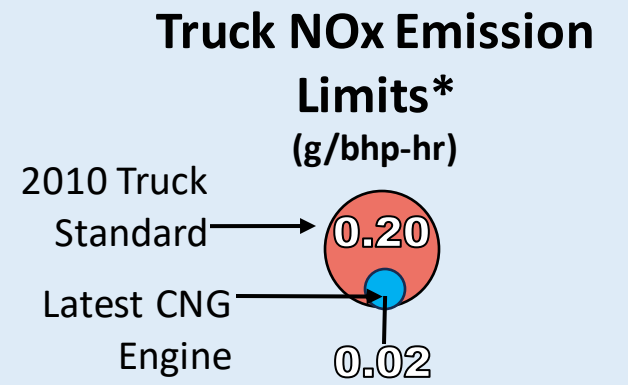
Sources: 2018-2022 POLA/POLB Emission Inventories

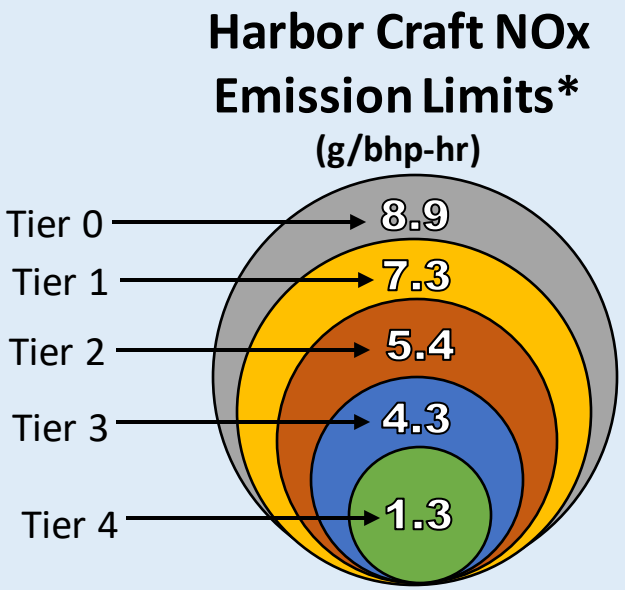
Technology Implementation at San Pedro Bay Ports

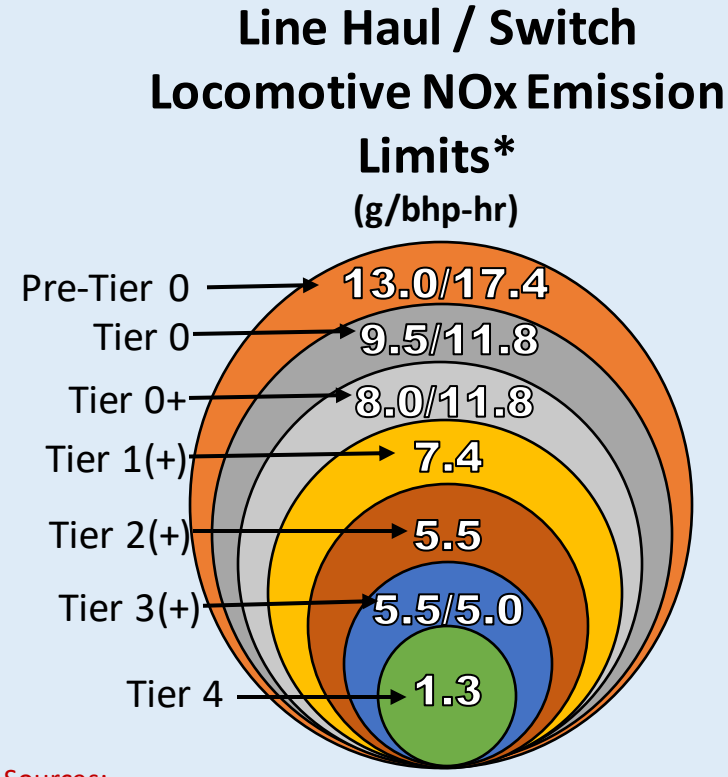


*Locomotive fleet includes on-Port switchers and line haul locomotives traveling from the Ports to the South Coast Air Basin boundary

ZE = Zero Emission (Battery electric and hydrogen fuel cell)
LNG = Liquefied Natural Gas CNG = Compressed Natural Gas







Sources:
03. HD Omnibus A-1 Final Title 13 CCR (ca.gov)
EPA Locomotive Exhaust Emission Standards;
Federal Marine Compression-Ignition (CI) Engines: Exhaust Emission Standards (EPA-420-B-20-021, July 2020);
CARB Commercial Harbor Craft Regulation (2021)

** Limits shown are approximate. Refer to specific regulations for details*

Sources: 2022 POLA/POLB Emission Inventories; Dec 2023 POLA Monthly Gate Move Analysis; Dec 2023 POLB Monthly Container Truck Move Analysis

Potential Emission Reduction Mechanisms: Drayage Trucks

	Desired Outcome			
	Increase ZE drayage truck usage or moves		**Reduce on-terminal emissions**	**Build out ZE infrastructure**
Potential Mechanisms	Ocean carrier / terminal / on-road carrier (truck) who share same corporate structure coordinate dedicated ZE drayage fleet	Terminal prioritizes contracts with customers (e.g. ocean carriers) that work with freight forwarders who can send ZE fleets	Feebate or incentive programs to reduce truck queue time	Allocate funds collected from Clean Truck Fee toward ZE charging/fueling infrastructure
	Increase funds toward ZE drayage truck deployment	Fee discounts or waivers on empty container storage moved by ZE trucks	Ensure compliance with Heavy-Duty Vehicle Inspection and Maintenance Regulation	
	Preferential gate access for ZE trucks via appointment system		Infrastructure improvements to reduce vehicle miles traveled on terminal	

Questions on these mechanisms?

Full table available as handout and here: https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/potential-port-emission-reduction-strategies---discussion-draft.pdf

Potential Emission Reduction Mechanisms: Switcher Locomotives

	Desired Outcome		
	100% Zero Emission Short Line Fleet	**Build out ZE charging/fueling infrastructure**	**Reduce idling emissions**
Potential Mechanisms	Include in short line operator contract turnover schedule of current locomotives to zero emission	Partner with third party to build short line charging/fueling facility	Faster rail access onto and off Terminal Island
			Greater efficiency for switching activity at terminals

Questions on these mechanisms?

Full table available as handout and here: https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/potential-port-emission-reduction-strategies---discussion-draft.pdf

Potential Emission Reduction Mechanisms: Line Haul Locomotives

	Desired Outcome	
	Cleaner locomotive visits	**Build out ZE charging/fueling infrastructure**
Potential Mechanisms	Dedicated Tier 4 or cleaner fleet for intrastate activity	Electrical infrastructure phase-in plan with milestones
	Per call incentive program for hybrid conversions and ZE trains	
	Establish "green corridor" for hybrid/ZE locomotives going from Ports to inland rail facilities	

Questions on these mechanisms?

Full table available as handout and here: https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/potential-port-emission-reduction-strategies---discussion-draft.pdf

Potential Emission Reduction Mechanisms: Harbor Craft

	Desired Outcome		
	Cleaner harbor craft ahead of CARB compliance schedule	**Accelerate ZE turnover/entry into harbor craft fleets**	**Buildout ZE charging/fueling infrastructure**
Potential Mechanisms	Terminal operators include in customer contracts turnover to cleaner vessels by 20XX	Incentivize operators to meet specific ZEAT milestones or operate vessel fleet above Tier 4 level starting year 20XX	Port include equipment procurement/modernization schedule in harbor craft operator leases
	Incentivize operators to repower/replace vessels to meet Tier 4 or cleaner by 20XX	Technology demonstrations and pilot projects	RFPs and grant funding for infrastructure installation, with incorporation into Ports' master plans
		Terminal operators include in customer contracts minimum use of ZE/hybrid assist tugs, if demo successful	

Questions on these mechanisms?

ZEAT = Zero Emission & Advanced Technology RFP = Request for Proposal

Full table available as handout and here: https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/potential-port-emission-reduction-strategies---discussion-draft.pdf

Discussion Pointers During Breakout Sessions

Looking for productive discussion on how emissions reduction mechanisms could be successful

Staff is open to additional mechanisms not in table as well

Looking for any supporting data or additional information from stakeholder feedback

Encourage multiple viewpoints to be offered and heard

Please treat others with courtesy, civility, and respect

Before Going Into Breakout Sessions

Next Steps

March / April

Follow Up on Meetings

- Additional meetings as necessary
- Consolidate feedback
- Follow up with stakeholders

"Potential Port Emission Reduction Strategies – Discussion Draft" is available on the Facility-Based Mobile Source Measures webpage: https://www.aqmd.gov/fbmsm

(Additional copies of the handout for today's discussion can be found at each breakout table)

To share additional information or supporting data or to meet individually with staff, please contact: PortsISR@aqmd.gov

Staff Contacts

Proposed Rule 2304

Charlene Nguyen
Program Supervisor
909-396-2648
cnguyen@aqmd.gov

Elaine Shen
Planning and Rules Manager
909-396-2715
eshen@aqmd.gov

Ian MacMillan
Assistant Deputy Executive Officer
909-396-3244
imacmillan@aqmd.gov

Jessica Wei
Assistant Air Quality Specialist
909-396-3223

Dylan Plautz
Air Quality Specialist
909-396-2108

PortsISR@aqmd.gov

Sign up for the mailing list at: https://www.aqmd.gov/sign-up (select "Proposed Rule 2304")

For more information and for materials from previous meetings, visit: www.aqmd.gov/fbmsm (click into "Commercial Marine Ports")