

Potential Emissions Reductions with Expansion of the PNYNJ Truck Replacement Program



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Overview

- Estimation of emissions benefits with expansion of truck replacement program
- Overview of policies to reduce drayage emissions outside the northeast
- Conclusions

Port Emission Reduction Measures— Drayage Trucks

- U.S. EPA and The Port of New York and New Jersey (PANYNJ) have evaluated several approaches to reduce drayage emissions
- One or more of these approaches - if adopted region-wide - could result in lower drayage-related emissions at OTR ports
- NESCAUM estimated the potential emissions reductions with expansion of the truck replacement program

ERG/PANYNJ Analysis

- A contractor for EPA, at the request of PANYNJ, evaluated several scenarios for reducing drayage emissions*
- NESCAUM selected one approach to estimate potential OTR reductions:
 - Replacement of pre-1994 drayage vehicles beginning in 2011
 - Subsequent replacement of pre-2007 trucks in 2017 with 2007 trucks
- ERG estimated the PNYNJ would realize annual reductions of 17% in NO_x and 15% in PM from drayage
- Annual benefits would continue for 24 years

*Eastern Research Group (ERG) conducted the analysis

NESCAUM Analysis

- NESCAUM estimated emissions from drayage in the OTR based on the Starcrest inventory developed for PANYNJ
- Information on tons of NO_x and PM from drayage in addition to tons of cargo moved through the PANYNJ was available from the Starcrest inventory and the American Association of Port Authorities
- The ratio of tons of pollutant generated to tons of cargo moved was used as a surrogate to estimate emissions in other OTR ports where emissions inventory data was not available
- A reduction percent was applied to the tons of pollutants based on the findings of the ERG study

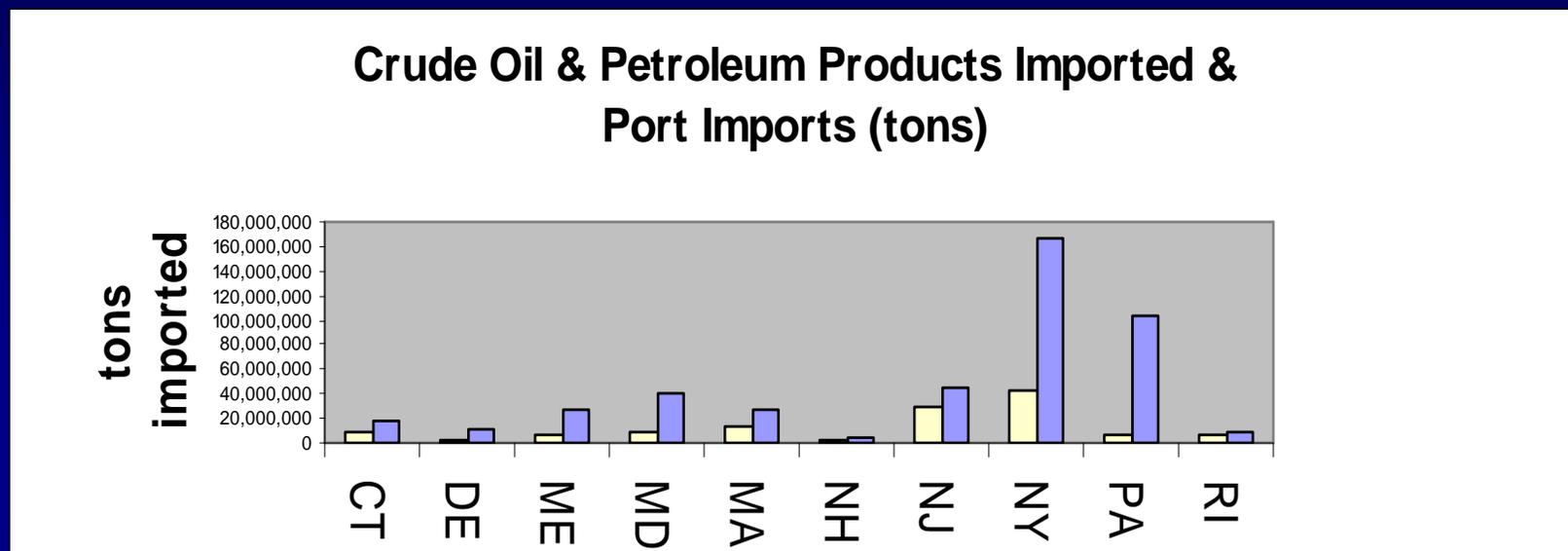
Potential NOx Reductions in the OTR

State	Annual freight (millions tons)	2006 Drayage Emissions (tpy)	Annual Benefit 10% (tpy)	Lifetime Benefit 24 years (tons)
NY/NJ	157	1,935	190	4,555
CT	17	212	21	499
DE	11	137	13	324
MA	26	320	31	755
MD	41	508	50	1,197
ME	26	320	31	755
NH	4	50	5	117
NJ	45	553	54	1,302
NY	10	125	12	295
PA	103	1,263	124	2,976
RI	9	114	11	268
VA	55	673	66	1,587
Total	504	6,210	610	14,629

Potential PM Reductions in the OTR

State	Annual freight (millions tons)	2006 Drayage Emissions (tpy)	Annual Benefit 10% (tpy)*	Lifetime Benefit 24 years (tons)
NY/NJ	157	54	5.0	131
CT	17	6	0.5	13
DE	11	4	0.4	9
MA	26	9	0.8	20
MD	41	14	1.3	31
ME	26	9	0.8	20
NH	4	1	0.1	3
NJ	45	15	1.4	34
NY	10	3	0.3	8
PA	103	35	3.3	78
RI	9	3	0.3	7
VA	55	19	1.7	42
Total	504	173	16.0	396

Fuel Imports to the Region



- Some fuel imports may not be included in AAPA data
- Yellow bars indicate crude oil and petroleum imports
 - source: Army Corps of Engineers
- Blue bars indicate imports to port
 - source: American Association of Port Authorities

Potential Policy Models

- The PANYNJ drayage program provides a potential model for the rest of the region
- Port of LA, Long Beach, and Oakland gate fees might provide a model of how the program could be paid for
- PANYNJ estimates its program will cost \$84 million for the two phases

Overview of Regulations in the OTR

- Currently in the OTC region, emissions regulations that apply to drayage trucks are those that also apply to other heavy-duty motor vehicles
- Each state in the OTR have some form of anti-idling regulation for on-road vehicles, which applies to drayage trucks
- To date there are no regulations in the OTR that apply exclusively to drayage trucks

Drayage Truck Regulations: Overview of Programs Outside the NEMA Region

- Currently, the following have regulations or voluntary programs that apply to drayage trucks at ports:
 - California Air Resource Board (CARB)
 - Port of Los Angeles & Long Beach
 - Port of Seattle & Tacoma
 - Port of Houston
- There is proposed legislation in Congress, entitled the Clean Ports Act (2010), that would allow ports to enact and enforce environmental programs above the current federal requirements.

Port of Houston

- In 2009, with economic stimulus funding, the Port of Houston implemented a program to reduce emissions from drayage trucks
- Owners of more than 3,000 diesel-fueled, heavy-duty drayage trucks at the Port of Houston will receive or have received economic stimulus funds to retrofit their trucks with pollution controls or to buy newer, less-polluting vehicles

Ports of Seattle and Tacoma

- Seaport Scrappage and Retrofits for Air in Puget Sound (ScRAPS) program
- After December 31, 2010 pre-1994 engines will not be permitted to access the Port of Seattle, and a future date will be determined for the same restriction to apply to the Port of Tacoma
- All drayage trucks with pre-1994 engines will be scrapped with truck owners receiving \$5,000 or fair market value, whichever is greater, or will be retrofitted with less-polluting diesel exhaust systems

California Air Resource Board (CARB)

- CARB's truck regulation has two phases:
 - Phase 1: deadline of December 31, 2009, at which time all pre-1994 model year (MY) engines will be retired or replaced with 1994 or newer MY engines –furthermore, all trucks with 1994 through 2003 MY engines must achieve an 85% PM emission reduction through use of ARB-approved level 3 verified diesel emission control strategy (VDECS)
 - Phase 2: with a deadline of December 31, 2013, all trucks will be further required to reduce emissions to meet the 2007 MY California or federal heavy-duty diesel-fueled on-road emission standards
 - Drayage Truck Registry (DTR)—all drayage trucks involved in work at affected ports and rail yards must register in a drayage truck registry by late 2009 and are required to affix a compliance label to the driver's-side door

Port of Long Beach

- As of January 1, 2010, all drayage trucks with engine MY from 1989 through 1993 are banned from the port, with engine MY from 1994 to 2003 only being allowed to access the port if equipped with a level 3 verified diesel emission control system (VDECS) that also achieves a minimum of 25% reduction in NOx emission
- The Port of Long Beach's Clean Trucks Program will ban all trucks that don't meet the 2007 emission standards by 2012
- The program also requires all drayage trucks that access the port to register in the Port Drayage Truck Registry (PDTR)
- The Port of Long Beach has realized an 80% reduction in pollution from drayage trucks since implementing the program

Port of Los Angeles

- The Port of Los Angeles's Clean Trucks Program is y the same as the Port of Long Beach's regulation, except that the Port of Los Angeles is requiring Licensed Motor Carriers (LMC) to sign concession agreements
- The concession agreement would make independent drayage truck owner-operator required to become "contractors" hired by the trucking company
- The purpose of this regulation is to assure that older, more polluting trucks will be replaced with newer, clean-emission trucks because the trucking companies have better means for replacing older vehicles and maintaining newer vehicles than the independent drayage truck owner-operators

Port of Los Angeles—Concession Agreements/Injunction

- An injunction sought by the American Transportation Association (ATA) seeking to strike down the concession agreement program was overturned by the federal courts
- On August 30, 2010, the U.S. District Court for Central District of California, upheld the Port of Los Angeles's concession agreement program on the grounds that the port is a private business exempt from the law that states that only the federal government has the authority to regulate trucking business operations
- ATA has appealed this decision to the 9th Circuit Court

Clean Ports Act (2010)

- In 2010, the Clean Ports Act was introduced to the House by Rep. Jerrold Nadler (D-NY), House Transportation and Infrastructure Committee
- The legislation would amend the Federal Motor Carrier Act of 1980, which deregulated the trucking industry, and would allow ports to enact and enforce environmental regulations above the current federal requirements
- Legislation in response to the legal battle of the injunction on the Port of Los Angeles's attempt to eliminate independent owner-operators and make them "contractors" hired by the trucking companies through concession agreements
- If passed, ports will be permitted to set regulations "reasonably related" to improving pollution, congestion, and safety operations at the port location without running afoul of federal law

Conclusions – Expanding Truck Retirement Program

- Expansion of the Port Authority of New York & New Jersey truck replacement program could reduce 610 tons of NOx and 16 tons of PM per year in the OTR
- Emissions reductions would continue for 24 years and provide air quality benefits and public health benefits
- Communities located near ports would benefit in particular
- Funding to assist operators with replacements would likely be needed

Conclusions – Drayage Truck Policies outside NEMA Region

- A number of voluntary and mandatory policies to reduce drayage-related emissions have been put into place around the country
- Some of these programs are showing very good results to date
- These can provide models for efforts in the northeast
- Funding for mandatory programs is likely needed