

# Ports Workgroup Report to the Clean Air Act Advisory Committee (CAAAC)

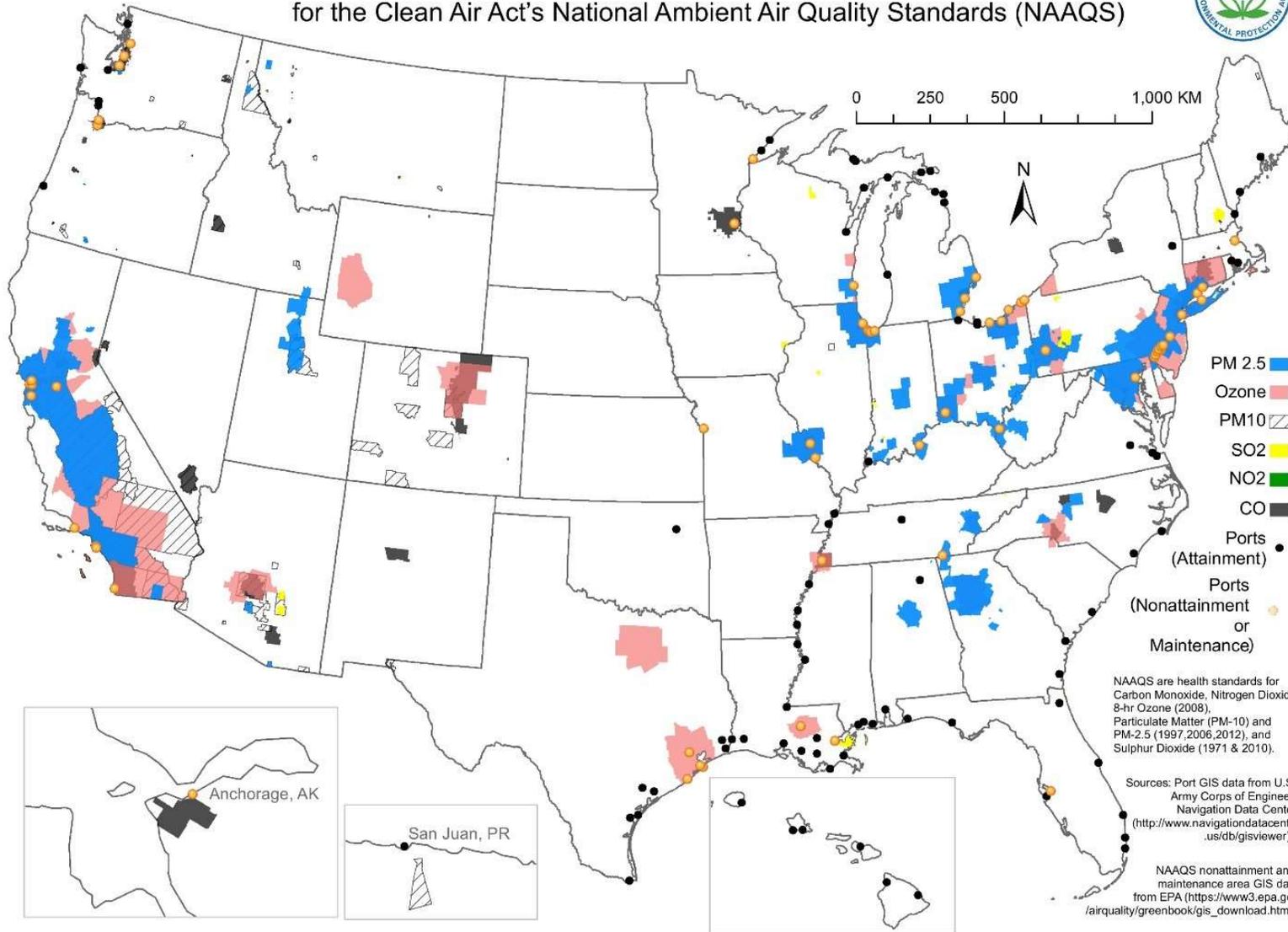
Materials for CAAAC call on Sept. 7, 2016



# Materials for CAAAC Call

- Overview of Ports Initiative Workgroup recommendations
  - Background (pre-read only – slides 3-7)
    - The purpose and Workgroup charge
    - Organizing to address the issues
  - Recommended program and its components (slides 8-24):
    - Program Design
    - Emission Reduction Strategies
    - Community-Port Engagement Tools
    - Coordination with Relevant Government Programs
    - Increasing and Targeting Funding
    - Information Clearinghouse and Communications
    - Inventories and Metrics
- Discussion (slide 25)
- Suggested Voting Options (slide 26)
- CAAAC Comments Received to Date (slides 27-32)

# Ports in Areas Designated Nonattainment or Maintenance for the Clean Air Act's National Ambient Air Quality Standards (NAAQS)



# Charge for the MSTRS Ports Initiative Workgroup

EPA asked MSTRS for recommendations on:

- Development of an EPA-led voluntary environmental port initiative
- How to effectively measure air quality and GHG performance of ports and/or terminals within ports

The workgroup should consider:

- Past MSTRS and other recommendations
- Existing port environmental improvement programs
- Ports in the context of the broader transportation supply chain
- Information from EPA's Assessments as available

# “Ports” are complex legal & operational systems.

- **Port Authority**
  - Government-established entity
  - May be “Landlord,” Operating or both
  - Financial and legal responsibilities
  - Environmental requirements for expansions, changes and as needed due to policies, or by government or tribal agencies programs.
  - Some have or are developing environmental strategies, inventories and programs
  - The “convening” entity
- **Other port operators**
  - Marine terminals (cargo and passenger)
  - Private terminals, Pilots, tugs and harbor craft
  - Energy and fuel suppliers
  - Dredging/maintenance/construction
  - On/near-port railyards and warehouses
  - Satellite port facilities
  - USCG, CBP and other governmental entities
  - (On-port manufacturing was excluded from study)
- **Port facility visitors/users**
  - Ocean/lake/river-going vessels and barge services
  - Rail carriers
  - Trucking companies
  - Supply deliveries
  - Workers for all entities
  - Passengers
  - Military vessels may/ay not be included
- **Others impacted**
  - Surrounding community and tribes
  - Other governmental entities (federal, state, local and tribal)
  - Cargo owners, shippers and recipients
  - Marine or land-based ecosystems
  - Fishermen, offshore oil and suppliers, recreational users

# MSTRS Ports Workgroup

Co-chairs:	Lee Kindberg, Maersk Line, and Sarah Froman, EPA
Ports:	Maryland, Charleston, Long Beach, New Orleans, Virginia
Terminals:	Ports America
Shippers:	Cargill, Walmart, HP
Equipment:	Caterpillar, Manufacturers of Emission Controls Association
Rail:	Burlington Northern Santa Fe
Trucking:	Evans Delivery
Port Communities:	East Yard Communities for Environmental Justice, Southeast CARE Coalition, Steps Coalition
Tribes:	Fond du Lac Air Program
NGOs:	Environmental Defense Fund, Natural Resources Defense Council
Research/analysis:	International Council on Clean Transportation
Government:	New Jersey DEP, SC DHEC (voting) and MARAD, CMTS (non-voting)
Non-voting:	American Association of Port Authorities, Bruce Anderson*
EPA Support	OTAQ, Office of Environmental Justice, Office of Water Region 1, Region 2, Region 6, Region 9

\* The Workgroup wishes to thank Bruce Anderson for volunteering his knowledge and expertise in the area of port-related emissions inventories, metrics, and methodologies.

# Workgroup Process

- Subgroups assessed needs/opportunities and developed recommendations:
  - Definition/Scope of a Port
  - Technology Implementation and Barriers
  - Federal Agency Coordination
  - Port Inventories and Metrics
  - Strategies for Community-Port Engagement
  - Program Design/Structure
- The Port Initiative Workgroup worked to create a report that reflects the viewpoints of all Workgroup members. Where opinions differed on particular recommendations, the differing points of view are discussed, and these recommendations are identified with an asterisk (\*).
- One idea was considered out-of scope or non-consensus (Section 9).

Section 2: EPA should establish a voluntary ports environmental performance program.

### “PACE: Port Action for a Clean Environment”

- Intent: Drive continuous improvement by
  - providing access to resources and tools,
  - sharing expertise on freight and passenger movement and port-related health impacts,
  - better aligning federal agency programs and funding, and
  - advancing the adoption of clean, innovative technologies and operational strategies.

## Section 2.1: Scope of the PACE program

### *("Definition of a Port")*

- The scope of the EPA voluntary ports initiative is maritime activities directly related to the movement of cargo, products or people including those associated with either state/local public port facilities or private terminals and federal facilities as appropriate.
- These activities include operation of vessels, cargo handling equipment, rail, truck/vehicles and storage/warehousing directly related to the transportation of maritime cargo or passengers.
- Activities can be related to infrastructure development and maintenance.

**NOT just targeted to Port Authorities  
(but they are key players).**

## Section 2.2: Overall Program Design

2.2.1 Provide funding, technical resources, and expertise to enable environmental improvements

2.2.2 \*Evaluate the feasibility and added value of formal tiered participatory program

2.2.3 Set goals, track progress, and incorporate ongoing feedback

- Set goals to work collaboratively with a specified number of ports in a given timeframe (e.g., 20 ports by 2020)
- Establish voluntary registry of goals and progress
- Publish results

## Overall Program Design (continued)

### 2.2.2 \*Evaluate the feasibility and added value of a formal tiered participatory program

- Some members felt technical resources, funding and coordination would be sufficient/the best use of EPA resources
  - Some were concerned about duplicating efforts (e.g., with Green Marine) and that many ports may not have bandwidth to participate
- Others felt a more formal structure with clear incentives may be needed to ensure accountability and continual improvement
- The Workgroup also found it challenging to reach consensus on what AQ/GHG management practices are appropriate for each tier given diversity of ports (discussed further as part of “Roadmap”)

## 6 Focal Areas of Program *(with report section numbers)*

3. Emission Reduction Strategies
4. Community-Port Engagement Tools
5. Coordination with Relevant Government Programs
6. Increasing and Targeting Funding
7. Information Clearinghouse and Communications
8. Inventories and Metrics

## Section 3: Emission Reduction Strategies

1. \*Develop a national roadmap of best practices
2. Develop guidance on strategies
3. Develop alternatives for technologies that don't fit existing regulatory approval/verification processes
4. Facilitate demonstration projects
5. Develop way to verify operational efficiency improvements
6. Develop guidance on clean construction specifications
7. Develop method to identify high emitting vehicles & promote maintenance best practices
8. Encourage effective state-level HD I&M

# Emission Reduction Strategies (continued)

## 3.1 \*Roadmap of best practices - example

### 3 steps

- Assess: collect baseline data; begin community/stakeholder engagement
- Plan & Implement: develop & implement strategic plan with milestones & performance targets; report metrics; recommended best practices.
- Monitor, Adjust & Enhance: assess program; refine plan by evaluating new technologies/operational practices; ongoing & continual improvement; recommended aggressive best practices.

Each step includes: management strategies; technology strategies; efficiency strategies; community strategies

# Emission Reduction Strategies (continued)

## *Roadmap challenges:*

Characteristic	Challenges
Not static	<ul style="list-style-type: none"><li>• Best practices are continually evolving.</li></ul>
Flexible but aggressive	<ul style="list-style-type: none"><li>• Accommodate “beginner” ports as well as more advanced ports.</li><li>• Numerical goals</li></ul>
Scope	<ul style="list-style-type: none"><li>• Which pollutants &amp; which media</li></ul>
Value added	<ul style="list-style-type: none"><li>• How to complement existing programs</li></ul>
What’s in it for the ports	<ul style="list-style-type: none"><li>• State/federal support</li><li>• Clear incentives</li></ul>
Accountability	<ul style="list-style-type: none"><li>• 3<sup>rd</sup> party verification</li></ul>

## Section 4: Community-Port Engagement Tools

1. Finalize EPA's capacity-building tools
  2. Develop future tools in partnership with key stakeholders
  3. \*Prioritize regional office actions in communities disproportionately exposed to port area emissions
- A number of other recommendations are also related to community engagement. Examples include:
- Guidance on developing and communicating inventories
  - Use of emerging tools ("citizen science")
  - Guidance on emissions reduction strategies and best practices
  - Advocating for EJ in the NEPA process
  - For a more complete list see Section 4

## Community-Port Engagement Tools (continued)

### 4.3 \*Prioritize regional office actions in communities disproportionately exposed to port area emissions

- Some members felt that Port Authorities and other port operators should always be included in EPA meetings with communities
- Others felt it was appropriate and valuable for EPA to meet with communities independently

# Section 5: Coordination with Relevant Government Programs

1. Coordinate within EPA, with CMTS, and other state, fed, and tribal agencies. Examples include:
  - Internal coordination with SmartWay, Regional Diesel Collaboratives, NEJAC, Office of Environmental Justice, other env. media offices
  - CMTS Maritime and Air Emissions Workgroup and EJ Interagency Working Group as forums for federal coordination
  - Coordination with HHS/CDC on health impact communications
2. Advocate for environmental justice, protection of treaty rights, mitigation, and transparency in the NEPA process
3. Work with sister agencies on voluntary national strategies to reduce emissions from the entire freight network
4. Expand SmartWay to other port operators (e.g., vessel operators) and consider how to recognize existing SmartWay partner port strategies

# Section 6: Increasing and Targeting Funding

1. Seek DERA reauthorization and full funding
2. Encourage use of more CMAQ funding at ports
3. Collaborate with other federal agencies to coordinate and publicize funding
4. Encourage use of SEPs to fund port projects
5. Provide funding for demonstration projects
6. \*Support and incentivize inventories and clean air plans
7. Identify new, feasible sources of self-sustained funding
8. \*Prioritize funding based on demonstration of measurable improvement; strengthen criteria to ensure public health benefits



# Increasing and Targeting Funding (continued)

## 6.6 \*Support and incentivize inventories and clean air plans

- Range of opinions on how to use funds to promote inventories and clean air plans
  - Some members recommend EPA fund inventory/clean air plan development
  - Others recommend restricting EPA funds to Port Authorities that have conducted or committed to conducting inventories

## 6.8 \*Prioritize funding based on demonstration of measurable improvement; strengthen criteria to ensure public health benefits

- Range of views on how stringent criteria for future funding should be or whether the criteria for DERA should change
  - Some say strong funding criteria (e.g., requirement to have inventory, clean air plan, participate in structured EPA program,) are needed
  - Others are concerned that strong criteria could preclude Port Authorities with limited bandwidth (and possibly the greatest emissions reductions needs)

# Section 7: Information Clearinghouse and Communications

1. Develop communications and outreach strategy to promote use of program resources
2. Create web-based information clearinghouse



# Section 8: Inventories and Metrics



1. Develop inventory guidance
  - Acknowledge various levels and quality of data
  - Consider emerging data sources (e.g. citizen science)
2. Assist and encourage development of refined port-related inventories
3. Facilitate simple, non-technical communication of inventories to stakeholders
4. Provide guidance on indicators/metrics
5. Identify and/or develop calculators
6. Provide guidance on other programs' indicators, metrics, and tools

## Section 9: Ideas Felt to be Non-Consensus or Out of Scope

Prioritization of these recommendations, along with other emissions reduction strategies (including regulatory approaches), was raised in some Workgroup discussions. The Workgroup did not reach a consensus on this broader prioritization, since our scope was defined as a voluntary initiative. The following statement reflects the concerns expressed by those members:

- *The Workgroup has provided EPA with numerous recommendations, a number of which will require significant time and expense for the Agency to implement. In prioritizing which requests to adopt in the near-term, EPA should, first, articulate its air quality and human health goals with respect to reducing freight emissions, including a timeline for reaching those goals; and then determine the combination of strategies it should employ to reach those goals (including funding, voluntary, regulatory, and guidance-oriented strategies). Such an assessment will help ensure that EPA's actions are driven by its mission (protect human health and the environment) and timely delivered.*

# Thanks from the Workgroup



# Discussion

- CAAAC questions and comments on Ports Workgroup recommendations
- Minor edits CAAAC members would like to make to Ports Workgroup report
- Substantive comments CAAAC members would like to include in a potential addendum to Ports Workgroup report
- Prepare for vote (see slide 26 for suggested options)

# Suggested CAAAC Voting Options

- 1 ... Vote to approve submission of Ports Workgroup report with minor edits and an addendum with any substantive CAAAC comments (identified by CAAAC member) received in writing by September 14
  
- 2... Vote against submission of the report—
  - (a) without a process for remediation of the concerns impeding approval
  - (b) with a process for remediation of the concerns, and potential future submission of a revised workgroup report

# Proposed minor edits to the report based on comments from CAAAC received to date

- Add terminology including tribes in Executive Summary, Section 6.1, and Section 8.2.
- Clarify that emission reduction strategies include electrification by adding example to Section 3.2.
- Clarify that EPA should encourage the use of both SEPs and other enforcement settlements to support port emissions reductions in Section 6.4.
- Correct typos
  - Executive Summary and 1.1: MSTRS is Mobile Sources, not Source
  - Spelling of Workgroup member Christina Wolfe's name in Appendix 10.1

# Substantive comments from CAAAC received to date that could be captured in a possible addendum to report

- Julie Simpson
  - Section 1.2 – EPA should develop a graphic showing locations of reservations with respect to ports and nonattainment areas, similar to the graphic in section 1.2 of the report.
- Andrew Hoekzema
  - Port Emissions Inventories**
    - Developing good port emissions inventories should be a central part of any voluntary port program EPA develops. EPA should consider developing guidance for states and ports on how to develop these inventories and how to ensure that they are consistent with and incorporated into state emissions inventories used for periodic emissions inventory (PEI) submissions, and photochemical modeling emissions inventories used for attainment demonstrations, reasonable further progress (RFP) state implementation plan (SIP) submissions, and maintenance plan SIP submissions. EPA could use the 2017 NEI as an opportunity to develop the guidance that would be needed for such an effort . In absence of state-submitted data, EPA should consider developing its own port emissions inventories for the 2017 NEI.
    - While the report qualitatively describes ports as being potentially significant sources of emissions, it is lacking the kind of details on existing port emissions inventories that should be able to provide some perspective on the potential scale of emissions from port activities. The ports of Long Beach, Los Angeles, and New York/New Jersey, for example, have 2014 NO<sub>x</sub> estimates of 7,717, and 6,410, respectively, based on data prepared by each port (Long Beach: <http://www.polb.com/civica/filebank/blobdload.asp?BlobID=13033>, Los Angeles: [https://www.portoflosangeles.org/pdf/2014\\_Air\\_Emissions\\_Inventory\\_Highlights.pdf](https://www.portoflosangeles.org/pdf/2014_Air_Emissions_Inventory_Highlights.pdf), NY/NJ: <http://www.panynj.gov/about/pdf/PANYNJ-2014%20Multi-Facility-EI-Report-1-Mar-16-scg.pdf>). For perspective, there are only two point sources in the state of Texas with 2014 NO<sub>x</sub> emissions higher than the NO<sub>x</sub> estimates for the ports of Long Beach and Los Angeles, only four point sources with 2014 NO<sub>x</sub> emissions higher than the port of New York and New Jersey. (<https://www.tceq.texas.gov/assets/public/implementation/air/ie/pseisums/2014statesum.xlsx>).

# Substantive comments from CAAAC received to date that could be captured in a possible addendum to report (cont'd)

- Andrew Hoekzema (cont'd)

## **Port Emissions Inventories (cont'd)**

- In the same way that EPA treats airports as “point sources” in the NEI data, it would be helpful for air quality planning efforts for them to consider treating ports more generally as point sources if they have a minimum level of activity associated with them. For example, using the ratio of the Port of Los Angeles’s NO<sub>x</sub> emissions to ton-equivalent-units (TEUs,), a port with about 87,000 – 108,000 TEUs would have enough NO<sub>x</sub> emissions to be considered “major” source of NO<sub>x</sub> emissions in a “Marginal” or “Moderate” ozone nonattainment area if it was a point source, and a port with about 220,000 – 270,000 TEUs would have enough NO<sub>x</sub> emissions to trigger prevention of significant deterioration (PSD) (250 tons per year of NO<sub>x</sub>) if it was a new source of NO<sub>x</sub> emissions. Using the available emissions estimates from the ports of Los Angeles, Long Beach, and New York/New Jersey, and the ports tonnage or TEU data for 2014 would be a good way for EPA to help ports obtain a first-cut estimate of the overall scale of emissions from their port’s activity. The desire for port operators and stakeholders for their own ports to have accurate data rather than default data produced by EPA could be one incentive for ports to participate in such an effort.
- While EPA currently does have emissions inventory guidance for ports (<https://www3.epa.gov/otaq/documents/inventory/2009-port-inventory-guidance.pdf>), the report produced by the committee indicates that there are still a lot of variation port-to-port in how/where the analytical/geographic boundaries for an emissions inventory should be set. One of the key issues with the development and use of a port emissions inventory is the extent to which activities represented in the port emissions inventory may already be represented in an inventory without specifying the extent to which it is associated with a specific port. For example, terminal tractors used to move cargo containers around a port are included in EPA’s NONROAD model, which allocates national-level equipment estimates of terminal tractor populations to each county based on employment in the manufacturing sector. Adding emissions at a port from a terminal tractor without otherwise accounting for or adjusting the county-level estimate of the equipment population and emissions would result in some level of double-counting of those emissions.

# Substantive comments from CAAAC received to date that could be captured in a possible addendum to report (cont'd)

- Andrew Hoekzema (cont'd)

## **Working with States**

- The report focuses a lot on direct relationships between ports and the EPA, but it doesn't seem to say much about the state/local governments and how they would interact with ports on these issues. Particularly in the SIP process, the port authorities, etc. would be interacting much more with the state than the EPA, and EPA's role in promoting air quality stewardship at ports might be more indirect in many cases. EPA could incentivize states to promote voluntary action at ports within their jurisdictions. For example, EPA could examine how to allow states to use emission reductions at ports that voluntarily participate in such programs as creditable offsets for new source review (NSR) permitting or emission reductions that would reduce the state's emission reduction responsibilities for interstate ozone/PM<sub>2.5</sub> transport.

## **Grant Funding for Inventories**

- Regarding DERA funding and other grant funding – there is a way to incentivize doing port emissions inventories through including such inventories and efforts in the scoring criteria that allows everyone to compete for the funding while still accounting for the added value of having a good, strong effort to quantify/track emissions and understanding how such emission reduction efforts fit into the port's overall environmental impact.

## **Funding Mechanisms for Port Air Quality Activities**

- Port authorities could consider assessing emissions fees based on certain performance/operational criteria (gallons of fuel consumed, tons of goods moved, etc.) to fund emission reduction efforts.
- If EPA could work with states to include ports among the sources of potential NO<sub>x</sub> and PM offsets for nonattainment areas, this could also provide a tangible financial benefit from participating in this effort.

# Substantive comments from CAAAC received to date that could be captured in a possible addendum to report (cont'd)

- Andrew Hoekzema (cont'd)

## **Other Stakeholders**

- There are at least two other stakeholders EPA should consider bringing into this process: the Occupational Safety and Health Administration (OSHA) and health insurers for employees working at the port. To the extent that a port's emissions would be a concern for health outcomes off-site, it is likely that the emissions could also have health impacts on port employees, and implementing strategies to reduce port emissions would likely be impact employee health. Perhaps there are ways that EPA and OSHA could work together to certify a port as a "green port" if it participates in such efforts and offer some regulatory flexibility?

## **Working with States**

- Any effort to work with ports on voluntary air quality efforts should involve the states. This is particularly important for ensuring that there is consistency between the port's emissions inventory development process properly accounts for the state's emissions inventory development process and assumptions, and to ensure that the state is able to take credit for emission reduction strategies voluntarily implemented at ports in the SIP.

## **Emissions Reduction Strategies**

- While DERA grants can be helpful in providing ports an opportunity to compete for grant funding to reduce emissions, the total amount of funding is relatively small compared to the scale of the emission reductions across the country. It might be helpful if EPA could encourage states to develop their own incentive programs, such as the Texas Emission Reduction Plan, or TERP, Diesel Emission Reduction Incentive grants, which provides many times the level of funding that DERA does each year within the state. Other states or local areas could develop their own incentive programs in order to steer funding to efforts to retrofit, repower, and replace older diesel engines used at ports. To the extent that EPA can encourage these efforts at the state and local level, it may be able to achieve the same goal that an increase in DERA funding would achieve without it requiring congressional action.

# Substantive comments from CAAAC received to date that could be captured in a possible addendum to report (cont'd)

- Andrew Hoekzema (cont'd)

## **Emissions Reduction Strategies (cont'd)**

- Regarding inspection and maintenance (I/M) strategies, technology is now available that would enable continuous I/M implementation if an authority was willing to implement it. Fleet management software and OBD testing theoretically allows for remote monitoring of OBD test data on a continuous basis. Ports might make good candidates to pilot such efforts.

## **Regarding Restricting EPA Funding to Ports Based on Participation**

- It's worth noting that DERA is not only used for ports, and no such criteria are applied to any other sector. Participation could be used as a component of the score, however – i.e., award a certain number of points based on the applicant's efforts to conduct a thorough inventory of its existing sources. Note that in the report, ozone would not fit into the list of emissions since it is a secondary pollutant. Suggested list of pollutants: carbon monoxide (CO), ammonia (NH<sub>3</sub>), (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter under 2.5 microns or less (PM<sub>2.5</sub>), particulate matter under 10 microns or less PM<sub>10</sub>, volatile organic compounds (VOC), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). A more limited list could be based on what pollutants are required for a specific type of nonattainment area. Also – if such criteria were going to be used, perhaps a screening criteria could be used based on the level of cargo handled, number of employees, etc.

## **Performance Standards**

- Since federal engine standards are expected to reduce emissions year-over-year in most cases regardless of action on the part of ports and engine operators, any performance standards should be set based on future conditions expected for a given analysis year based on expected fleet turnover. For example, rather than using 2014 emissions data as-is for setting a performance standard, it would be better to protect emissions out to 2020 and set performance standards based on conditions that could be achieved through implementation of control measures between now and then.