Full Steam Ahead: EPA Moves Forward with Key Initiative to Reduce Emissions at U.S. Ports

Saturday, June 16, 2018


Although EPA acknowledges the Port Everglades Report is not a “policy document and does not include policy recommendations,” the agency makes clear that the report will inform EPA’s update to its Port Emissions Inventory Guidance. The report also provides options to inform voluntary emission reduction actions.

Industry stakeholders should closely monitor EPA’s Ports Initiative, as well as developments at the state and local level, that are intended to reduce port-related emissions (such as proposed regulations, voluntary measures, and/or other updates to guidance documents).

Overview

The Port Everglades Report acknowledges ports are critical to the U.S. economy and essential for transporting cargo, fuel and passengers. The report also recognizes that, as part of its broader Ports Initiative, EPA must (1) have an “on-the-ground” understanding of how ports operate on a “day-to-day basis” and (2) examine available methods to estimate port-related air emissions. To this end, EPA and Port Everglades – one of the nation’s leading container ports, south Florida’s main port for receiving petroleum products, and one of the world’s busiest cruise ports – participated in a first-of-its-kind collaboration to study mobile source emissions.

Port Everglades developed a 2015 baseline air emissions inventory from which to measure the impact of future port changes. EPA also used this baseline inventory to develop future hypothetical emission inventories and scenarios to evaluate potential new diesel-emission reduction strategies at Port Everglades. The study considered a variety of emission sources, including ocean-going vessels, harbor craft, cargo-handling equipment, trucks, and locomotives. EPA evaluated both current and future emissions, as well as potential strategies for three “off-port” transportation corridors – a marine corridor, a truck corridor, and a rail corridor. According to the report, the “partnership will provide future measures, lessons learned, and practical examples that can be shared with other ports, related agencies, and industry stakeholders.”

Key Takeaways

- EPA will apply the lessons learned from the Port Everglades collaboration to develop emission reduction strategies and methods that can be applied at other ports.
  - The partnership served as a “technical training ground” for EPA and allowed EPA to better
understand port operations.

- The lessons learned as part of the Port Everglades collaboration “will inform future EPA guidance” and “can be applied to other interested ports.”

- **Obtaining accurate and comprehensive emissions inventory information is the foundation of a successful emission-reduction strategy.**

  - Inventories allow ports to “examine emission trends by source, identify potential opportunities for emission reductions, and prioritize future investment or operational changes to reduce emissions.” For example, ocean going vessels are the largest current source of emissions. Despite the implementation of increasingly stringent emission control requirements, emissions from vessels are expected to remain the largest source of port-related emissions for the foreseeable future. However, reduced hotelling time, among other things, is likely to reduce emissions.

  - By obtaining comprehensive inventories, Port Everglades can now examine emission trends by source, identify potential opportunities for emission reductions, and prioritize future investment or operational changes to reduce emissions. For example, an analysis of the equipment inventory at the port showed that harbor craft (which produce considerably less emissions than OGVs but still account for the third-most on-port NOx and PM emissions) constituted a large proportion of older equipment, meaning that emission reductions could likely be achieved by offering incentives for vessel or engine replacement.

- **On balance, port-related emissions have declined, but there are opportunities for achieving additional emission reductions through voluntary measures.**

  - The “Business-as-Usual” inventories indicate EPA’s engine and fuel regulations, along with the emergence of new commercially available technologies, will lead to port-related emissions reductions. However, the Port Everglades Report lists other voluntary strategies – such as accelerating equipment replacement rates – that could reduce emissions even further and/or sooner. These voluntary strategies include those in the table below.

  - According to the report, “ports can assess which [strategies] make the most sense for their specific conditions.”

**Table 1-1. On-Port Strategies Considered at Port Everglades**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Strategy Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ocean Going Vessels</td>
<td>Reduce hotelling time by 5% or 10%</td>
</tr>
<tr>
<td></td>
<td>Alternative control technology at berths (e.g., capture and treat)</td>
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<tr>
<td></td>
<td>Use of lower-sulfur and alternative (e.g., LNG) fuels</td>
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<tr>
<td></td>
<td>Application of shore power to reduce engine operations while dockside</td>
</tr>
<tr>
<td>Harbor Craft</td>
<td>Engine and vessel replacement</td>
</tr>
<tr>
<td>Cargo Handling Equipment</td>
<td>Engine and equipment electrification</td>
</tr>
<tr>
<td></td>
<td>Diesel particulate filters and oxidation catalysts</td>
</tr>
<tr>
<td>On-road Vehicles</td>
<td>Truck replacement to Model Year 2010+</td>
</tr>
<tr>
<td></td>
<td>Battery electric vehicles (BEVs)</td>
</tr>
</tbody>
</table>
After the Port Everglades Report: What's Next?

EPA will use the methods and inventories generated by the Port Everglades Report to inform the update to EPA’s Port Emissions Inventory guidance and “future inventory development and strategy analyses across the [United States].” It remains to be seen, however, what other action the report will lead to at the federal level and in what ways local, regional, and/or state regulators will utilize this information.

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