



WORLD SHIPPING COUNCIL
PARTNERS IN TRADE

Comments of the

World Shipping Council

Submitted to the

New Jersey Department of Environmental Protection

In the matter of

**Preliminary Comments in Follow Up to 16 September
2020 Stakeholder Meeting on Reducing CO₂ Emissions**

October 14, 2020

The World Shipping Council (WSC) is a non-profit trade association that represents the liner shipping industry, which is comprised of operators of containerships and roll-on/roll-off (ro-ro) vessels (including vehicle carriers). Together, WSC's members operate approximately 90% of the world's liner vessel services. WSC's member companies operate more than 5,000 ocean-going liner vessels of which approximately 1,500 vessels make more than 27,000 calls at ports in the United States each year. Vessels operated by WSC members make frequent calls at ports and marine terminals in New Jersey.¹

WSC files the below preliminary comments with the New Jersey Department of Environmental Protection (NJDEP) in response to its invitation for comments from stakeholders following the 16 September virtual meeting on "Reducing CO2 Emissions: Oceangoing Vessels and Harbor Craft".

WSC and our member lines have extensive experience dealing with at-berth electrification requirements in California, particularly with the costs and operational implications of retrofitting containerships that call California to be able to plug in to shore power, the complexity and necessity of having shore side electrification infrastructure requirements in place before subjecting vessels to plug-in requirements, the need for practicable and cost-efficient rules governing the various regulated vessels and the ports and marine terminals at which they call, the problems inherent in attempting to rely on barge or shore-based emissions capture and control systems, and the risks of trying to regulate vessels that make infrequent and/or short duration calls and for which electrification is not a viable control option.

We respectfully offer the below comments to NJDEP as it assesses development of at-berth emissions requirements and welcome the opportunity to discuss these issues in further detail with the NJDEP staff.

1. Substantial Impact on Stakeholders and Infrastructure

Developing and implementing a functioning and effective at-berth emissions reduction program for vessels calling New Jersey is an enormous task. Such a program would have substantial impacts not only on the regulated ships, ports and marine terminals, but also on the thousands of businesses and consumers that rely on ocean shipping and maritime transportation for their livelihoods. According to a July 2020 impact study by the New York Shipping Association, ships, ports and marine terminals in New Jersey and New York support more than 500,000 jobs, and in a single year result in the transportation or handling of 7.5 million TEUs of containerized

¹ A full description of the Council and a list of its members are available at www.worldshipping.org.

cargo, 50 million tons of bulk cargo, 100,000 tons of breakbulk cargo, 578,00 vehicles, and more than 300 cruise ships.

A regulatory effort of this magnitude must be carefully planned, designed and calibrated to avoid imposing severe unintended economic and operational consequences on the regulated industries as well as the scores of other businesses and citizens that rely on those industries. For example, requiring a particular type of ship to connect to at-berth power requires engagement with a range of stakeholders that are needed to determine if the existing energy grids serving the ports and marine terminals at which the regulated ships call can support the energy demands of plugging in the ships. The port authorities that lease and manage the space on which the marine terminals are located must determine how to connect safely to the grid without affecting existing commercial operations and public infrastructure in space-limited and highly congested areas. The marine terminals at which the regulated vessels call must then establish adequate and safe connections between the port electrical grid and the berths where the vessels call without affecting existing cargo handling equipment and operations. And the vessels themselves have to be retrofitted to connect to shore power connections at a cost of approximately one million dollars per vessel per connection.

The statement made during the public meeting that NJDEP could simply adopt by reference the regulatory approach that is being implemented in California is an imprudent one as it fails to recognize that the containerships, refrigerated cargo ships and cruise vessels that have retrofitted for electrification pursuant to California Air Resources Board (CARB) rules do not necessarily call at the ports and marine terminals in New Jersey. While it is logical, for example, from a standardization perspective that any NJDEP at-berth requirements would make use of the technical connection standards used in California, the mix of vessel types and their emissions profiles, port authorities and marine terminal operators, other affected port users, electrical and grid infrastructure and population and geographic features that affect emissions impacts and the consequent regulatory strategy in New Jersey are completely different from California.

NJDEP must do the pre-regulatory work to understand and identify the stakeholders, the emissions and their impacts, the infrastructure needs and costs, practicable and cost-effective control options, and the timeline for any emissions control program. If NJDEP chooses to proceed with an at-berth emissions regulatory program, substantial lead time will be needed after the regulations are issued and before compliance is required to allow for the regulated vessels, ports and marine terminals to plan, design and install shore power equipment and infrastructure to meet the compliance requirements. Experience in California has shown that retrofitting ships and equipping berths to be able to plug in those ships takes many years, even for a small number of berths.

2. Limited Time Horizon for Emissions Control Investments

Implementing an at-berth emissions control program for New Jersey would require years of expensive and complex infrastructure investments on ships, at ports and marine terminals, and further inland. The costs of these investments would be borne not only by the various parties regulated under the emissions control program, but also by state and local municipalities whose infrastructure would need to be upgraded or modified to support large-scale shore side electrification for ships at berth.

Before undertaking such a program, it is critical to factor into the regulatory decision-making process the fact that these massive infrastructure investments may be relatively short-lived in their utility as the shipping industry is aggressively moving to develop low and zero-emission fuel technologies. WSC, along with the major international shipping associations, have developed and are presenting to the International Maritime Organization (IMO) a global research and development program proposal that will direct substantial shipping industry dollars to the development of low and zero-carbon fuels with the goal that zero-carbon or zero-emission ships could be introduced in the 2030s. This effort is based on the recognition that international ocean shipping must shift to a new generation of propulsive technologies to replace fossil fuels. If ships are powered by zero-emission fuels, the substantial, multi-year shore-side electrification and related infrastructure investments to enable large ships to plug in while at berth could soon become wasted investments.

3. Need for Detailed, Updated Emissions Inventories and Air Quality Assessments

As mentioned above, before embarking on a regulatory program to require various types of ships and the ports and terminals they call at to undertake substantial and complex infrastructure investments, the first step must be to understand and quantify the emissions profiles of each of the ship types, the resulting health and other impacts of those respective emissions, and the costs and benefits of attempting to control those emissions using economically available emissions control technology.

To date, NJDEP has only estimated and generalized the emissions and impacts of New Jersey maritime operations in its Phase 2 report entitled "*Estimated Air Quality Impacts on Surrounding Communities of PM_{2.5} and SO₂ Emissions Resulting from Maritime Operations at the Elizabeth Port Authority Marine Terminal and Port Newark: Phase 2 Future Impacts (2015)*". This report uses 2006 emissions data that has been adjusted based on transportation growth figures to present estimated emissions and impact figures for 2015. The Phase 2 report lacks

sufficient precision and granularity to serve as the basis for an emissions reduction regulatory program. More specifically, the report is based on data that is now 14 years old, the report does not contain vessel class-specific emissions profiles and inventories that are essential to determining which classes of vessels fall within a cost-benefit threshold to be regulated, and the report lacks sufficient detail to understand which emissions control options may be appropriate and practicable for a particular vessel class.

Before proceeding with a regulatory development process for at-berth emissions, WSC encourages NJDEP to undertake a current inventory of the target emissions from each of the vessel classes that operate in New Jersey, including an analysis of the local geographic concentrations of those emissions and the resultant health impacts relative to other non-maritime emissions sources.

4. Regulatory Strategy

Experience in California demonstrates that an at-berth electrification regulatory program cannot work without clear and practicable regulatory obligations not just on the vessels whose auxiliary emissions are to be controlled, but also on the ports and marine terminals at which those vessels call. Vessels alone cannot compel the ports and marine terminals they call to install costly and complex at-berth electrical connections or establish inland connections to the power grid. Similarly, ports and marine terminals cannot compel the vessels that call their facilities to retrofit to be able to connect to their shore power equipped berths.

Simply put, an effective at-berth electrification program, if NJDEP ultimately chooses to move forward with one after careful consideration of the factors discussed in these comments, must include the connection equipment requirements for the regulated classes of vessels as well as the electrical infrastructure and berth connection requirements the ports and marine terminals must meet and on what time schedule. Furthermore, should NJDEP proceed with plans for an at-berth program, vessels that have made the investments to become shore power equipped should not be subject to penalties, operational delays or additional costs or control requirements (e.g. paying for barge or shore-based capture and control) if the terminal at which the vessel calls is unable to connect the vessel to shore power.

5. Vessels Not Appropriate for Regulation

Certain classes of vessels that make infrequent and very short port calls and for which electrification is not a cost-effective or operationally practicable control option, namely vehicle carriers and roll-on/roll-off (ro-ro) vessels, must be considered for exemption from any at-berth

emissions control requirements. WSC believes that a proper cost-benefit analysis of regulating these vessel at-berth emissions will demonstrate that the cost per ton of emissions reduced is simply too significant to warrant inclusion of these vessels in an at-berth emissions control program.

A contributing factor that must be considered in the regulatory decision making process is the fact that alternative emissions control technologies, such as shore or barge-based systems, pose substantial safety and operational problems for vehicle carriers and ro-ros as these technologies disrupt loading and unloading operations, interfere with bunkering operations, pose safety and operational issues in adverse weather, require substantial terminal modifications to support their weight, are often unreliable, generate their own emissions, and require limited harbor craft to maneuver them in place. While alternative control technologies may one day prove reliable enough to play a role as back-ups when at-berth electrical connections are unavailable, these technologies should not be considered as a primary emissions control option.

6. Conclusion: Need for Comprehensive Assessment

In closing, our experience with existing at-berth regulations has demonstrated the vast array of investments, connection complications, and obligations on both carriers and shore-side facilities that are necessary to build an effective at-berth emissions control program. In light of this experience, we believe that NJDEP should undertake an updated emissions and air quality inventory for all classes of vessels and then conduct an in-depth assessment of the necessary investments both onboard and onshore, how long the investments are likely to be viable in view of the changing suite of fuels and technologies likely to occur over the next 10-20 years, and the expected emission benefits compared to the relevant costs.

Thank you for your consideration of our preliminary comments to NJDEP in response to the concepts and ideas discussed during NJDEP's virtual meeting with stakeholders. We would welcome the opportunity to discuss our comments and experiences with existing at-berth emissions regulations with NJDEP staff at their convenience. WSC's point of contact on at-berth emissions is Doug Schneider, who may be contacted at dschneider@worldshipping.org

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