Via Email

December 21, 2015

Mr. Kirk Rosenkranz
Air Quality Specialist
California Air Resources Board
Sacramento, CA 95814

Re: Draft Technology Assessment: Mobile Cargo Handling Equipment

Dear Mr. Rosenkranz:

On behalf of the members of the Pacific Merchant Shipping Association (PMSA), including ocean carriers and marine terminal operators conducting international trade at all of California's public ports, we thank you for this opportunity to comment on "Draft Technology Assessment; Mobile Cargo Handling Equipment." Overall, the Draft Technology Assessment is a comprehensive and factual representation of the status of the various technologies available today.

PMSA supports the development of a Sustainable Freight Action Plan (SFAP) and the Governor's Executive Order B-32-15 (EO). As discussed in the Draft, PMSA members are already implementing zero and near-zero technologies into their operations at California's public ports. Others are considering how they can transition to more efficient means of moving cargo but face many obstacles.

Stranded Assets:
Under the combined weight of the Cargo Handling Equipment Regulation, and the Ports' Clean Air Action Plan, terminals have made massive investments in new, cleaner equipment. The benefits have been clear with the Ports of Los Angeles and Long Beach reporting over 80% reduction in diesel particulate matter (DPM), and over 50% reduction in oxides of nitrogen (NOx) since 2005. But the capital costs have also been high, and most of the equipment on terminals today are nowhere near the end of their effective life, and have not yet paid for the investment.

Operational Constraints
One of many issues in making the transformation to zero and near-zero technologies will be the impact to on-going cargo operations while the infrastructure and equipment are constructed. Unlike the two terminals that took the lead in zero and near-zero operations, other terminals don't have vacant space to shift operations during the construction, which will result in lost revenue for the terminal. It will also necessitate a phased approach. Other operational constraints will be as individual as layout of the terminals, resulting in many unique and innovative solutions to the problems encountered.

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Capital Costs

In addition to the cost of stranded assets, the costs of transforming container cargo operations is truly daunting. PMSA commissioned Moffat & Nicol, a global engineering firm with extensive experience in terminal operations and design, to transform container terminal operations at California public ports (Los Angeles, Long Beach, & Oakland) to zero-emission operations, what that might look like, and how much would it cost. The results of the M&N study are summarized below:

- Over the next 30 years, replacing, maintaining and operating current, conventional marine terminal equipment would require total private sector investments of $246 billion. Of this total, $7 billion is in new capital expenses.
- If current equipment is replaced with zero emission or near-zero emission equipment, the 30 year cost will rise to $295 billion - $307 billion, **an increase of $49 - $61 billion**, depending on two investment scenarios. A large portion of this increase is in capital expenses.
- Of the two scenarios – the high-density electrification pathway – predicts that it is possible to achieve the multiple goals greater capacity, lower operational costs with the complete electrification of all marine terminal container handling equipment.
- It must be noted that those costs do not include infrastructure improvements that ports and utilities will need to make in order to serve electrified equipment off-dock, or the opportunity costs to terminal operators from construction impacts and reduced cargo and productivity during periods of construction. Both of these amounts must be analyzed and considered as well.

In summary, the "Draft Technology Assessment: Mobile Cargo Handling Equipment", provides an accurate overview of the state of current technology. PMSA and our members are also thinking about the transformation to the next generation of cargo handling technologies and are willing to do so, but will need the full support of the state.

If you have any questions, or wish to schedule a briefing on the M&N study, please feel free to contact me.

Sincerely,

T.L. Garrett
Vice President

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