World Shipping Council Comments

to the

California Air Resources Board (CARB)

on the

SECOND PROPOSED 15-DAY CHANGES TO THE CONTROL MEASURE FOR OCEAN-GOING VESSELS AT BERTH

27 July 2020

The World Shipping Council (WSC) is a non-profit trade association that represents the liner shipping industry, which is comprised primarily 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. Vessels operated by WSC members make frequent calls in California ports and WSC's members would be directly and substantially affected by the proposed rule.[1]

In addition to participating in CARB workshops, webinars and informal discussions, WSC has filed two rounds of formal, written comments on this proposed rule - on 9 December 2019 in response to the proposed control measure and on 1 May 2020 in response to the first round of 15-day changes to the proposed control measure. Each of our comments on the proposed rule has been accompanied by a specific and practical recommendation to address the issue discussed in the comment.

While we indeed appreciate the changes that CARB staff has made to the proposed control measure in response to WSC's comments, we note that few of our comments and recommendations on the first round of 15-day changes have been incorporated into the proposed rule. This concerns us because our comments contain policy and technical recommendations that will help ensure California's revised at-berth rules are practicable, provide a fair and reasonable compliance pathway for regulated vessels, and achieve the state's emissions reduction goals.

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

Before turning to our detailed comments on the second round of 15-day changes, we offer the following higher-level comments on three elements of the proposed rule:

***Support for Adjusted Implementation Dates**:* WSC supports the proposed adjustment of the new rule's implementation dates. One of the main benefits of this adjustment is that it will put the infrastructure implementation and assessment steps in the correct order. Under the original proposed rule, port and marine terminal infrastructure plans to comply with the rule would not be due to CARB staff for review and approval until six months *after* the rule's requirements took effect. Under the proposed adjustment, CARB will be able to review and approve port and marine terminal infrastructure plans more than a year before the new implementation date takes effect for existing regulated vessels. The infrastructure plan information submitted to CARB by ro-ro ports and terminals will also be an important input to the December 2022 interim evaluation of control technologies for ro-ro auxiliary emissions.

***Need for Robust Ro-Ro Feasibility Analysis as Part of the Interim Evaluation**:* Under the proposed rule, CARB staff will publish in December 2022 the findings of an "interim evaluation" of emissions control technologies as well as landside infrastructure to control auxiliary emissions from ro-ro vessels and other classes of vessels that may in the future be subject to the rule. While we appreciate CARB staff's expansion of the scope of the interim evaluation to include shoreside infrastructure and information from port and terminal infrastructure plans, we strongly encourage CARB to expand the interim review so that it includes an assessment of the feasibility of controlling ro-ro auxiliary emissions, including a detailed cost versus benefit analyses based on updated ro-ro vessel visit, emissions and control technology information.

***Innovative Concepts Option**:* WSC supports the proposed extension of the period during which an innovative concept (IC) may be used as a compliance option from three to five years. Along with that change, we recommend that CARB eliminate the December 2021 IC application deadline and develop a process through which IC applications may be submitted on a rolling basis. This change would help encourage innovation to develop and deploy new emissions reduction technologies that may not be ready by December 2021. Finally, we wish to note that, in describing the IC option, CARB staff has indicated that it could be used by regulated vessel fleets to comply with the at-berth requirements. The provision, however, makes only an indirect reference to vessel fleets when it notes that visits made under an IC are not counted towards a fleet's vessel incident exceptions. We therefore recommend that CARB add a new sub-paragraph under the general requirements section (93130.17 (a)) that states that ICs may be used as a compliance option by regulated vessels, vessel fleets, ports and marine terminals.

WSC's additional technical comments and recommendations on CARB's second round of 15-day changes to the proposed control measure follow. Our comments are listed in the order that the issues appear in the proposed rule. Please direct any questions on these comments to Doug Schneider of the WSC staff at dschneider@worldshipping.org.

1. **Definitions** (Section 93130.2 (b)):

   a. ***Ready to Work*:** We recommend that CARB amend this definition by inserting the following after "*netting down*" and before "*all*": "*, the ramp is down and secure (if applicable), required shore side labor technicians are present, and".* These changes are needed to accommodate vessels equipped with ramps (which would not therefore use a gangway) and to note the presence of labor technicians that are essential to hooking the vessel up to shore power or to an alternative compliance method.

   b. ***Visit*:** We recommend that the words "*at a different marine terminal*" be inserted after the word "*another*" so shifts within a single marine terminal would not constitute a new vessel visit. To correspond to the above change, the words "at a different marine terminal" must also be inserted after the word "berth" in Section 93130.7(e)(4)(I).

2. **CARB Approved Emissions Control Strategy (CAECS) Operators** (Section 93130.5):

   a. ***Requirements for CARB Approval*** (Section 93130.5 (d)): Under current CARB at-berth regulations, LNG-fired auxiliary engines are treated as an approved control option. The proposed rule would, however, require time-consuming and costly testing of LNG-fired auxiliary engines before they may apply for CARB approval. This will discourage investments in a promising alternative to oil-fired auxiliaries. We therefore recommend that CARB retain the provisions in the current at-berth regulations that designate LNG-fired auxiliaries as an approved control option.

3. **Vessel Operator Requirements** (Section 93130.7):

   a. ***Amendment to General Requirement Provision*** (Section 93130.7): This section contains vessel checklist items that a commissioned shore power equipped ship cannot complete unless the terminal/port and/or CAECS operator complete their checklist obligations under the rule. Section 93130.7's statement that "Any failure to perform any specific items in this section shall constitute a separate violation…" could thus be used to penalize a shore power equipped ship that could not complete its checklist items because the terminal/port or CAECS operator failed to meet its obligations. To correct this issue, we recommend that the second sentence in the opening paragraph of Section 93130.7 be replaced with:

      "*Any failure to perform any specific items in this section shall constitute a separate violation for each calendar day that the failure occurs, except to the extent a vessel operator cannot perform any requirement due to (1) a terminal and/or port's failure to comply with the portions of this Control Measure that impose requirements upon terminals and/or ports, and/or (2) a CARB Approved Emission Control Strategy Operator's failure to comply with the portions of this Control Measure that impose requirements upon CARB Approved Emission Control Strategy Operators*."

b. ***Amendment to Shore Power Provision*** (Section 93130.7 (a)): Changes are needed to eliminate ambiguity and prevent this provision from being used to dictate to vessels on which side they must be able to plug in to shore power. We recommend that 93130.7 (a) be replaced with:

> "*(a) Shore power requirements for at berth emissions reductions.*
>
> *Vessel operators with shore power vessels that have been commissioned by the terminal (or port) at which the vessel will call (or deemed compatible based on a previous commissioning) shall plug in to shore power on each visit to the terminal. Commissioning of vessel shore power equipment should be based on the following technical standards: IEC/ISO/IEEE 80005-1/80005-2 and IEC 62613-1*."

c. ***Expansion to Ro-Ro Vessels*** (Section 93130.7(b))*:*

WSC continues to have significant concerns with CARB's proposal to expand the applicability of the at berth regulations to ro-ro vessels (including vehicle carriers). Ro-ro vessels make infrequent and very short port calls in California. Over the course of a year, each vessel in a ro-ro fleet may call only 2 or 3 times and for a very short period of time. This means the CARB's at berth emissions requirement would become applicable to all ro-ro vessels that may at some point in a given year call California. The problem is that ro-ro vessels and the terminals they call have limited viable or cost-effective compliance options.

CARB is predicating its regulation of ro-ro auxiliary emissions on the premise that barge or shore-based emissions capture and control technologies will become a viable and practicable emissions control option. Experience to date with the existing barge-based capture and control service providers has demonstrated that those services are often unreliable, are exceedingly costly, and would pose substantial operational and safety problems for ro-ros. For example, the systems cannot be used in windy weather, cannot always reach ro-ro stacks (which may be 40 meters laterally and 40 meters above the waterline), and often prevent simultaneous alongside bunkering operations. Shore-based emissions capture systems may be better able to reach ro-ro stacks, but obstruct shoreside cargo operations, may not be useable in windy weather and exceed the load bearing capabilities at many of the terminals in California where ro-ro vessels must call.

CARB has estimated that the control cost per ton of emissions reduced for ro-ro vessels is $53,600. Even using that cost estimate, which we believe is low[2], it is worth

[2] Starcrest Consulting Group, LLC, published in December 2019 a ro-ro cost analysis study for PMSA and the Ports of Los Angeles and Long Beach. The study estimated that the costs to control ro-ro auxiliary emissions ranges from approximately $115,000 to $200,000 per weighted ton of emissions. A copy of this study may be found in the CARB at-berth docket at: https://www.arb.ca.gov/lispub/comm/bccommlog.php?listname=ogvatberth2019.

noting for comparison that CARB estimated that the control cost per ton of emissions reduced for containerships is $13,500. When asked what cost-benefit threshold was used to decide which classes of vessels to regulate and which not to regulate, CARB staff reported that there is no threshold and that the decision to regulate ro-ro emissions was based simply on aggregate emissions. There has been no considered analysis of the costs and benefits of regulating ro-ro auxiliary emissions. We also note that ro-ro auxiliary emissions occur in distinctly different geographic locations, where their impacts and the related cost-benefit analyses for controlling those emissions may be quite different.

In summary, CARB's proposal fails to demonstrate that a cost-effective and practicable pathway exists for controlling ro-ro vessels' auxiliary emissions, fails to address the major operational, safety and cost issues emissions capture systems pose for ro-ro vessels and fails to account fully for the emissions generated by emissions capture systems. Compelling ro-ro carriers to try to comply with the rule using the operationally impractical, complex and costly emissions capture systems on the market is not appropriate and will delay the adoption and benefits of more practicable zero-emission technologies that still need to be developed.

WSC therefore recommends that CARB not proceed with the proposal to regulate ro-ro auxiliary emissions and instead monitor ro-ro emissions and the ongoing development of technologies that may in the future provide a viable and economically achievable compliance option for these vessels.

d. ***Vessel Compliance Checklists*** (Section 93130.7 (e)):

- **Shore Power Connection Time:** While CARB proposes to modify § (3) (A) to require vessels to begin using shore power or another CAECS within two hours after "Ready to Work", a substantial number of arriving vessels would still be unable to meet this requirement. Establishing shore power connections must be done safely by longshore technicians, who may not be immediately available given their other extensive responsibilities. Unreasonably short time limits for connecting high-voltage systems could pose safety risks to workers, result in unnecessary damage to the equipment, and subject a substantial percentage of compliant vessel calls to noncompliance for tasks the vessel cannot control. We therefore recommend that vessels be required to begin using shore power or another CAECS within three hours after "Ready to Work".

- **Shore Power Disconnection Time:** § (3) (B) would require vessels to cease using shore power no sooner than one hour before "Pilot on Board". There will be situations in which this is not a practicable disconnection deadline for ocean carriers because of delayed vessel departures due to weather or vessel traffic or if labor unplugs the vessels early due to their own shift schedules. We therefore recommend that the shore power disconnection time be no sooner than two hours before "Pilot on Board".

- **Post-Visit Reporting:** We support CARB's proposal in § (4) to require reporting of information for each visit to a California terminal within 30 days of vessel departure instead of the previously proposed 7 days of vessel departure. We recommend that CARB develop an online system/dashboard into which each vessel (and terminal) operator could upload its post-visit reports. The dashboard should provide each operator with an updated snapshot of its compliance as well as VIE/TIE allowances versus usage and other relevant metrics for the designated fleet.

4. Terminal Operator Requirements (Section 93130.9):

a. ***General Requirement*:** We support CARB's decision to include in the proposed rule clear and appropriate obligations for marine terminals and ports to provide the shore side infrastructure to connect ships to at-berth power and to connect commissioned ships in a timely manner when they call. These are functions that commercial ships cannot themselves perform and lack commercial power to require. Including these requirements in the regulation will establish balanced obligations for ships and the terminals they call and will set clear expectations regarding what ports and marine terminals will need to do to fulfill their obligations under the rule.

b. ***Commissioning*** (Section 93130.9 (a)(2)): This proposed change could be read as allowing ports or terminal operators to dictate on which side vessels seeking to have their installed shore power systems commissioned must connect. Vessel shore power equipment is designed to enable the vessel to connect to shore power on one, but not both, sides and the vessel has no ability to quickly switch the equipment to the other side. We strongly recommend that this provision be replaced with the following: "*(2) The port or terminal is responsible for commissioning vessels fitted with installed shore power equipment*."

5. VIEs and TIEs (Section 93130.11):

a. ***Exclusion of Innovative Concept Visits in VIE and TIE Allocations*** (Section 93130.11 (a)): We support the allocation of VIEs based on company vessel fleets and support CARB's proposal to exclude from the annual VIE allocations visits made under an innovative concept covered under Section 93130.17 of the rule.

b. ***VIE and TIE Rates*** (Section 93130.11 (b)): The proposed VIE allocation (5%) needs to be increased to account for the fact that the rule will require *all* containerships and refrigerated cargo vessels to use at-berth power. We anticipate, based on historical compliance data, that more than 5% of vessel fleets will be unable to comply due to onboard equipment problems, the need to rotate vessels into and out of California services for required surveys and dry-dockings, and due to unpredictable commercial demands that may require shipping companies to deploy or phase-in non-commissioned vessels to meet U.S. import and export trade needs. With the above considerations in mind, we recommend that CARB increase the VIE allocation for the first three years after implementation to 10 percent per year.

c. ***Requests for Additional VIEs and TIEs*** (Section 93130.11 (c)): Since vessel operators may encounter situations that warrant additional VIEs that could not be anticipated by 1 December, we recommend that CARB modify 93130.11 (c) by inserting the following after the third full sentence: *"(Note: CARB staff will consider, and respond within 60 calendar days, to written requests for additional VIE and TIEs submitted at any time during the year)".*

d. ***VIE and TIE Expiration*** (Section 93130.11 (d)): To provide more flexibility, particularly to address chaotic market conditions, we recommend that CARB allow companies to carry over any unused TIEs or VIE until June 30 of the year after they were granted.

6. **Terminal and Port Plans** (Section 93130.14): WSC believes that there would be value in explicitly articulating in the revised rule that port and terminal plans should include, among other things: a) appropriate changes to existing infrastructure design (e.g., inadequate electrical sub-station/electrical vault configurations); b) expansion of existing electrical infrastructure in container ports to accommodate to enable all shore power equipped container ship calls to be accommodated through shore-side power; and c) that approved plans include a realistic timeframe for design and construction consistent with the final regulatory dates promulgated in the final rule.

7. **Interim Evaluation of New Control Technologies** (Section 93130.14 (d)): Please see our comments and recommendations on page 2 of this document.

8. **Remediation Fund Users** (Section 93130.15): We recommend that CARB expand the list of circumstances in which vessel operators may use the remediation fund to include vessels that make infrequent calls to California ports (e.g. less than 3 calls per year). This is a logical regulatory approach for addressing infrequent calling vessels (e.g. vessels rotated in to California to address increased demand or "extra loaders" brought in to ease port congestion) because it would enable the vessels to have a compliance option if CAECS operators are not available or operational for a particular visit.

9. **Innovative Concept Compliance Option** (Section 93130.17): Please see our comments and recommendations on page 2 of this document.

10. **Summary of Responsibilities** (Section 93130.18): The last row in Table 6 suggests that in the case of a CAECS equipment failure or failure to perform, the vessel, terminal and the CAECS operator would be held responsible. This is not appropriate and creates ambiguity with respect to compliance. The vessel operator has no ability to control the performance or maintenance of a CAECS operator. Under this rule, CAECS operators will be CARB approved, regulated entities that are subject to penalty action for noncompliance. If a CAECS operator fails to meet its obligations under the rule, the CAECS operator alone should be subject to penalty action or an exception (e.g. if the equipment failure was due to a safety issue). We

therefore recommend that “vessel” and “terminal” be removed from the list of responsible parties in Table 6 when a CAECS has an equipment failure or failure to perform.

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