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July 24, 2020

To whom it may concern:

“Additional” opinion Statement to “Second Proposed 15-Day changes to the control measure for ocean-going vessels at berth, dated on July 10, 2020”

We have compiled our “2nd additional” opinion on the use of electric shore power for Airborne Toxic Control for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in California Port as a position to operate vessels.

*Note
The red colored text is a quote from "ATTACHMENT A PROPOSED REGULATION ORDER -SECOND PROPOSED 15-DAY CHANGES TO THE CONTROL MEASURE FOR OCEAN-GOING VESSELS AT BERTH -” on July 10, 2020.

1. Page A-30 on Attachement A
   Section 93130.7(b) Requirements for vessel auxiliary engines
   <NYK comment>
   We concern to expand the regulations to ro-ro (PCTC = vehicle carriers) vessels.
   Because it is only about 20 ro-ro vessels (PCTC) out of 110 ro-ro vessels(PCTC) call California frequently and regularly, and other ro-ro vessels (PCTC) may call only several times a year and very short stay at berth. Moreover, some vessels may not call CARB. But all of our ro-ro vessels (PCTC) have to comply this new regulation because of any ro-ro vessels (PCTC) may have chance to call California. Therefore, it will be required to install AMP on all of our ro-ro vessels (PCTC).
   Based on our past experience of installation of retrofit AMP on container ships, we estimate approximate costs of USD 700,000 to 900,000/vessel.
   Please understand this cost impact is very serious for vessel operators (Owners), and we would like you to cooperate in the development of future technology rather than investing for vessels with such low numbers of calling at CARB. Absolutely, we comply with current regulations.

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2. Page A-25 on Attachment A

Section 93130.5. CARB Approved Emission Control Strategy

(g) Source testing.

A person shall use source testing to demonstrate that a proposed emission control strategy achieves the performance standards in section 93130.5 (d) of this Control Measure. Testing must be done by third party source testers specified in the test plan. Alternative test methods or emission verifications may be used when specified in the test plan upon written approval from the Executive Officer. The following requirements shall apply to source testing conducted under this Control Measure:

<NYK comment>

In this year, LNG fueled ships will be delivered into service in place of conventional heavy fuel oil, but regarding the generator of LNG fueled ship, it should be approved as “type approval”, means we’d like to suggest not approval for each generator engine of vessel individually. In other words, the exhaust gas of LNG fuel engine itself equipped on board to be not measured, but exhaust gas of engine of same model/type to be measured at the manufacturer's factory and that it is approved.

Furthermore, although we are studying with one of university in US for the sample collection procedure for PM/NOx/ROG measurement and method for exhaust gas analysis, found that it is tremendously difficult to install the measurement equipment on board (due to space restriction and impossible to apply various required load on Diesel generator for testing) and costs a huge amount.

Basically concerning that the sparks on the shore power cable connection may cause a very dangerous situation, so strongly request to exempt use of shore power during bunkering and LNG fueled vessels, however, if it is difficult to accept, at least LNG fuel auxiliary engines retain as an approved control option, or LNG fuel engines should be approved as “type approval” as mentioned above.

3. Page A-37 on Attachment A

Section 93130.9. Terminal Operator Requirements.

(d) Terminal operator compliance checklist.

(4) Use shore power or another CAECS during the vessel visit.

(C) Cease controlling emission with shore power or another CAECS no sooner than one hour before “Pilot on Board”; and

<NYK comment>

Although it is stipulated that it is no sooner than one hour before POB, in the case of RoRo vessels, it becomes quite busy because there are many complicated tasks such as securing ramps, checking the lashing condition of all cargoes from the end of loading until sailing.

Most pilots come aboard before the sailing time, but just before that is the busiest time for the crew.

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Therefore, we would like to request a change in the regulation "no sooner than two hours before ETD" regardless of the time of POB.

Furthermore, should be considered that is necessary to idling operation without applying electric power load for a while before stopping and after starting generator engines. Idling operation is needed at least 15 minutes after starting till apply electric load and 15 minutes to stop after taking out electric load (for cooling down). Therefore, 30 minutes of idling time should not be included in CAECS usage time such as shore power. Thus, this time consuming should be considered for next opinion of item.4 (berthing period).

4. CAECS exemption due to berthing period.

<NYK comment>

In the case of RoRo, berthing period is often quite short. Crew members are busy working on port entry and leaving work at California ports and preparation for cargo operation. In addition, with considering the idling operation time after starting the engine and before stopping as mentioned above, would like to request exempt that if it is berthing period within 10 hours.

Due to shore power connection and disconnection work, there is a possibility that will be pointed out by PSC in other countries no as to comply with MLC regulations (shortage of rest hours).

5. Confirmation of charges shore power used at the terminal in CARB

<NYK comment>

We need to make a budget for operating expenses of vessels. It does not specify the charges for using shore power when using it at RoRo terminal.

For the reference, would like to know how you are considering the expenses of electricity usage at this stage.

It must be considered as an additional cost for entering in the port of CARB.

Yours faithfully,

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April 28, 2020

To whom it may concern:

“Additional” opinion Statement to “Proposed 15-Day changes to the control measure for ocean-going vessels at berth, dated on March 26, 2020 ”

We have compiled our “additional” opinion on the use of electric shore power for Airborne Toxic Control for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in California Port as a position to operate vessels.

We would like to submit the opinion statement below.
Some of comments are duplicates with WSC’s comments submitted on April 21, 2020, but will list here as well, and please note that the initial opinion for previous draft dated on October 15, 2019 are also attached in this statement from page.4 to 7.

1. Implementation date

   <NYK comment>

   The biggest change we see between this draft and the original proposal is the change in implementation dates (page 28-29). As proposed, Ro-Ros would be required to comply in 2024 rather than 2025, tankers going to LA/LB in 2025 rather than 2027, and all remaining tanker trade in 2027 rather than 2029. As far as we can tell, CARB has offered no explanation for this revision.

   Given the current global circumstances and likely impact on the industry, we recommend providing comments to request the original compliance dates be maintained to allow sufficient time for fleets to come into compliance.

2. Page A-11 on Attachment A

   Section 93130.2. Section Summary, and Definitions.

   (b)Definitions.

   (40) “IMO NOx tier” means the NOx tier level of a vessel as citified in the Engine International Air Pollution Prevention (EIAPP) Certificate. Vessel without an IMO NOx tier are considered pre-tier I vessel.

   <NYK comment>

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What is difference in correspondence between each vessel due to differences in tier?

If the vessel satisfied with tier 2 or 3, is there some preferential treatment?

3. Page A-19 on Attachment A

Section 93130.5. CARB Approved Emission Control Strategy

(d) Requirement for CARB approval of an emission control strategy.

(1) Emission reductions.

To receive CARB approval, a person must demonstrate that the emission controls strategy achieves emission rates less than 2.8g/kW-hr for NOx, 0.03g/kW-hr for PM-2.5, and 0.1g/kW-hr for ROG for auxiliary engines. Additionally, for strategies approved after 2020, GHG emissions from the strategy must be grid-neutral using the grid emission rate for the year that the technology is granted an Executive Order. Default emission rates of auxiliary engines on ocean-going vessels are 13.8g/kW-hr for NOx, 0.17g/kW-hr for PM-2.5, and 0.52g/kW-hr for ROG.

<NYK comment>

It is necessary to reduce the values of NOx, PM, and ROG respectively to the specified values, but we would like to know clearly the basis (reason) of these presented values, 2.8(NOx), 0.03(PM2.5) and 0.1(ROG).

In addition, enormous cost and time are required for measurement of above. Therefore, implementation date of regulation should not be advanced, and cost assistance is required for NOx, PM2.5 and ROG measurement.

Further, we should be able to refrain from using shoreside electrical power for LNG-fueled vessel by reporting or verifying that LNG fuel has been used in port.

4. Page A-56/57 on Attachment A

Section 93130.17. Innovative Concept Compliance Option.

(a)Genera; requirements for using an innovative concept compliance option.

(1) Applicants seeking approval of an innovative concept must submit their applications to the Exclusive Officer on or before the following dates in Table 5 for each vessel category:

Table 5: Innovative Concept Application Due Date	
Vessel Type	Due Date
Container/Reefer	July 1, 2021
Passenger	July 1, 2021

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Ro-ro	December 1, 2021
LA/LB Tankers	December 1, 2021
Other Tankers	December 1, 2021

(2) The proposed innovative concept must reduce NOx, PM 2.5, and ROG emissions equivalent to or greater than the level that would have been achieved by the Control Measure, while not increasing GHG. Emission reductions are verified each year through annual reporting in section 93130.17(d) of this Control Measure

<NYK comment>

It will be necessary to issue some documents from engine manufacturer such as the NOx Technical File, in order to comply with new regulation of NOx, and to describe who will allow CARB to approve the test result for PM2.5 and ROG measurement.

If CARB accept the method/equipment for reduction of NOx/PM/ROG, we would like to request CARB to compensate the cost for test.

5. Page B-4 on Attachment B

Summary of the 15-Day Changes

8)Connection time from “Ready to Work” determination. The Proposed Regulation adjusts the time allowed for connection to shore power or an alternative CAECS for vessels at berth from one hour after “Ready to Work”. This Change is expected to have a minor impact to the emissions reductions compared to the connection time definition listed in the ISOR. This is based on past compliance data for the original At-Berth Regulation. Staff do not connect to shore power or to an alternative CAECS. This change has no impact on costs.

<NYK comment>

Who has responsibility for emission control violations if more than two hours have passed since "Ready to Work" due to delays by shore-side works and/or any other reason to connect shore power. It should not be on vessel.

6. Page B-4 on Attachment B

Summary of the 15-Day Changes

9)Updated non-cancer mortality. Total costs for all entities is expected to be about $2.4 billion through 2032, with a statewide valuation of avoided health impacts valued at $2.44 billion from 250 fewer premature deaths, 78 fewer hospital admissions, and 126 fewer emergency room visits statewide. More

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information on the updates to the Health Analysis can be found in Attachment D of the 15-day package.

Page D-3 on Attachment D

2. Updates to Regional PM2.5 Mortality and Illness Analysis for California Air Basins: PM Mortality and Illness: Reduction in Health Outcomes.

California Air Resource Board (CARB) staff estimated the reduction in health outcomes from reduced emission of PM2.5 from the 15-day change version of the Proposed Regulation. These health outcomes include cardiopulmonary mortality, hospital admissions, and emergency room visits. Based on the analysis, staff estimates that the total number of cases statewide that would be reduced due to the implementation of the Proposed Regulation are as follows:

- 250 premature deaths (195 to 305; 95 percent confidence interval (Cl)).
- 78 hospital admissions (10 to 145; 95 percent (Cl).
- 126 emergency room visit (79 to 172; 95 percent Cl)

Updated Tables 20 through 22 show the estimated reductions in health outcomes resulting from the Proposed Regulation summed over 1 12-year period from 2021 to 2032. The values in parentheses represent the 95 percent confidence interval for each health outcome.

<NYK comment>

It understands as estimated figure, however, it is not just because of vessels. It seems to be not considered the underlying disease, inherited diseases, lifestyle-related diseases, etc.

Yours faithfully,

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October 22, 2019

To whom it may concern:

Opinion Statement to "Appendix Proposed Regulation Order for At-Berth in a California Port "

We have compiled our opinion on the use of electric shore power for Airborne Toxic Control for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in California Port as a position to operate vessels.

As can be seen at the link below, NYK has been working with POLA (Port of LA) since 2004 to make use of shoreside electrical power systems for containerships.

https://www.portoflosangeles.org/environment/air-quality/alternative-maritime-power-(amp)

Based on this, we would like to submit the opinion statement below.

1. Page 7

(21) "Diesel Engine" means an internal combustion, compression-ignition engine with operating characteristics substantially similar to the theoretical diesel combustion cycle. Regulating power by controlling fuel supply in lieu of a throttle indicates a compression ignition engine.

<NYK comment>

We should be able to refrain from using shoreside electrical power for LNG-fueled vessel by reporting the amount of fuel (or ROB at berthing and at sailing) and verifying that LNG fuel has been used.

2. Page 8

(41) "Malfunction" means any sudden and unavoidable failure to operate in a normal manner by air pollution control equipment that is not caused in any way by poor maintenance, negligent operation, or any other reasonably preventable upset condition or equipment breakdown.

<NYK comment>

If a malfunction occurs, please specify what kind of maintenance record should be prepared and submitted in order to certify "Not poor maintenance, negligent operation, or any other reasonably preventable upset condition or equipment breakdown."

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3. Page 14

(1) Any person who owns, operates, charters, or leases any United States or foreign-flag ocean-going vessel that visits a California port, terminal, or berth;

<NYK comment>

Who would be chiefly responsible? If the vessel is chartered, will the owner be responsible? As can be seen from the phrase "All responsible parties may be held jointly and severally liable," we can assume that CARB takes the stance that chartered vessels, owners, and shippers can *all* be held responsible. Please clarify the responsible person.

4. Page 22

(a) No person shall discharge or cause the discharge from any ocean-going vessel at berth and at anchor, into the atmosphere, any visible emissions of any air pollutant, for a period of periods aggregating three minutes in any 1 hour from any operation on the vessel that is:

<NYK comment>

It is said that black smoke on a Ringelmann 2 or more scale and other pollutants must not be discharged for more than three minutes out of every hour. Do we need to monitor the funnel with cameras and store recorded video? Video that can be adequately verified at night can be difficult to obtain.

5. Page 22

Section 93130.7. Vessel Operator Requirement

Vessel operators that visit a berth or terminal in California shall meet the following requirements. Any failure to perform any specific items in this section shall constitute a separate violation for each day that the failure occurs.

Operator definitions are stated as follows:

“Page13

(79) "Vessel Operator" means any person who decides where a vessel is to call or who is in direct control of the vessel. The party in direct control of the vessel may be a third-party hired to carry cargo or passengers for the person under a charter agreement to operate the vessel. Direct control does not include the vessel master or any other member of the vessel crew, unless the vessel master or crew member is also the owner of the vessel or decides where a vessel is to call.”

<NYK comment>

From these definitions, it is possible to understand that the owner considers the charterer to be the operator, and the charterer considers the shipper to be the operator. Please add a sentence that clearly indicates the requirements imposed on the shipper.

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6. Page 24

(3) Use shore power or another CARB approved emission control strategy during the vessel visit.

(A) Begin using shore power or another CARB approved emission control strategy within 1 hour after "Ready to Work".

(B) Cease using shore power or another CARB approved emission control strategy no sooner than 1 hour before "Pilot on Board."

Ready to Work can be defined as follows:

"Ready to Work" means that the vessel is tied to the berth, the gangway has been lowered with netting down, and the United States Coast Guard, United States Customs and Border Protection, and other government authorities have cleared the vessel.

<NYK comment>

There are virtually no opportunities for government authorities to visit and “clear” a vessel at every time. Therefore, can we regard the vessel to be “Ready to Work” when the gangway is set up or the when the captain signs documentation in communication with the agent? Please provide clear guidance as to what would constitute a clearance by government authorities.

Since it is expected that the loading/discharging start time will be delayed, the stern ramp should be set up regardless of whether power has been switched to shoreside electrical power.

7. Page 28

(1) Operators of terminals with berths equipped to receive compatible shore power vessels must connect these vessels to shore power when visited by a commissioned shore power vessel.

<NYK comment>

If the terminal is responsible for installing the shoreside electrical power supply, the specifications of the systems should be decided early and disseminated.

Please note that all our operating PCTCs have a distribution voltage of 440V / 60 Hz. The 440V distribution systems are not ideal for providing shore-based power because of the high amperage required. To reduce the loss caused by the augmented electrical resistance, the voltage supply at berth is required to be as high as 6.6kV, and have a stepdown transformer that can be located either on board the ship or at berth to connect with 440V distribution systems.

The stepdown transformer and the cable management system should remain on board for smooth operation. The installation location for equipment like power transformers, electrical power systems, switchboard, control panel, and cable reel system (possible and on berth) will be a significant challenge due to space

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restrictions and ship construction and type.
Modification of ship structure may be required depending on space availability. In addition, the frequency of the onboard power system is 60 Hz. A frequency converter may be required depending on the port frequency, and the plug and socket that are currently used at POLA (Port of LA) should be standardized so that they can be used at ports throughout the world.
Since car carriers have a very high freeboard, the equipment can be placed as per either of the two options.
1st Option - It is conceivable that a truck equipped with cables and transformers can be loaded on the vessel. Therefore, the "1 hour" indicated in Section 93130. 7(e)(3)(A) and (B) should be relaxed to "6 hours."
2nd Option - Installation of the electrical fittings and hoist mechanism on the aft mooring station (Deck 9). However, we are not sure of the size of the equipment required to be installed and dimensions of the cable reel because the aft mooring deck has height and space limitations, and modification of construction may be required.

3rd Option – A 20-foot container with complete installations may be placed on the weather deck (deck 12/13). A shore crane needs to have a high reach of about 40 m.

8. Page 31
Unlike containerships, RORO vessels have a short berthing time. Therefore, the target vessels should limit the number of annual calls to seven or more and berthing time to 24 hours or more.

The NYK RORO division would like to propose the following:
General

1. Shore power connection box capacity is not sufficient for the ventilation fan load. Some modification would be needed. None of our current PCTCs are fitted with AMP (Alternate Management Power Supply system). If shore power is deemed compulsory in California ports, all our ships will have to undergo conversion to be considered.
2. Time is constrained for connecting the power to shore power.
3. If a mobile truck mounted unit is used, some cargo may need to be discharged prior to the truck entering the car hold (related to first option mentioned above), and during this time the DGs would need to continue running.
4. Delay is often a result of something outside of the vessels control (clearance delay/labor delay, terminal equipment issues)
5. Differentiations between existing and newly built ship standards should be clarified. Expecting old vessels to comply with latest performance standards is impractical. Limitations (like derating) should be acceptable.

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6. If vessel is not shore power capable, vessel is responsible for providing Alternate strategy which has to be approved by CARB. The issues as of now are on the process for preparing the alternate strategy and obtaining the approval from CARB, this may also include follow up with AE makers on what measures are required to ensure emissions are within limits set by CARB.
7. Vessel which are suitable for shore power – the issues are mainly safety related, e.g. blackout while taking shore supply and again after shore supply is removed – resulting in its impact on vessel's equipment, particularly Navigational Equipment / Gyro Compasses. Also have to ensure the shore power supply is sufficient for safe cargo operations and vessel's safe stay at berth.

Yours faithfully,