

**Coalition for Clean Air • Natural Resources Defense Council  
American Lung Association of California • Coalition For A Safe Environment  
Communities for Clean Ports • Long Beach Alliance for Children with Asthma  
Planning and Conservation League • Sierra Club California  
Union of Concerned Scientists**

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*Via Electronic Mail*

October 4, 2007

Mike Waugh, Manager  
California Air Resources Board  
Stationary Source Division  
P. O. Box 2815  
Sacramento, CA 95812

**Re: Comments on Draft of At-Berth (Shore Power) Ocean-Going Vessel Regulation**

Dear Mr. Waugh:

The Coalition for Clean Air, Natural Resources Defense Council, American Lung Association of California, Coalition For A Safe Environment, Communities for Clean Ports, Long Beach Alliance for Children with Asthma, Planning and Conservation League, Sierra Club California and the Union of Concerned Scientists again commend the California Air Resources Board (ARB) for pursuing this important regulation to cold-iron ships at California's major commercial ports. In light of ARB's Diesel Risk Reduction and Goods Movement Emission Reduction Plan (GMERP) goals, as well as ARB's effort to achieve state and federal air quality goals and implement AB32 early action measures, ARB must move forward swiftly to address the under-regulated marine sector and commit to maximum emission reductions from this regulation.

We are pleased that ARB has strengthened the draft regulation over the course of the past three workshops. Specifically, we support the shift to a strict percentage ship visit requirement as opposed to the initial regulatory approach to only require frequent visitors to use shore power. Such an approach will provide consistent and calculable emissions reductions from ships statewide and help reduce the number of premature deaths, incidences of cancer and other public health problems caused by exposure to diesel exhaust by ships and other goods movement sources. Additionally, we were especially pleased to learn at ARB's September 24<sup>th</sup>, 2007 workshop that ARB aims to add regulatory language to incorporate shorter term deadlines for emission reductions by 2010. It is paramount that ARB include these near term requirements to curb emissions and provide relief to port communities as soon as possible.

As you are aware, marine emissions account for 30% of all diesel particulate matter (DPM) in California. Further, ARB's *Diesel Particulate Matter Exposure Assessment* for the Ports of Los Angeles and Long Beach found that hotelling emissions from ocean-going vessels (OGVs) were the number one cause of elevated cancer risk from on-port sources. Compounding these impacts, as trade volumes increase, ships are expected to

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contribute roughly three-fourths of the DPM from goods movement sources by the year 2020.<sup>1</sup>

For these reasons, we continue to support swift action by ARB to promulgate this regulation at the December hearing; however, we have specific concerns outlined below that must be addressed before the final draft regulatory language and ARB staff report are released.

**1) Incorporate aggressive short term-term deadlines for increased shore power statewide**

As mentioned above, we are pleased that staff announced that the regulation will be amended to include specific emission reduction requirements by 2010. ARB must incorporate clear provisions that are, at a minimum, consistent with previous commitments to reduce diesel pollution, goods movement emissions and greenhouse gases (GHGs).

As you are aware, ARB's GMERP committed to a shore power strategy that would require at least 20% of ship visits to use shore power by 2010. ARB must incorporate this specific provision into the regulation. Further, ARB's Diesel Risk Reduction Plan commits to reducing the risk from diesel pollution by 75% by 2010. We are extremely concerned that ARB is not on track to meet this target. Every regulation ARB is considering must be in line with the significant reductions that must happen by this date.

By incorporating 2010 emission reduction requirements and adding an additional interim deadline in 2012, ARB would send a clear signal to ports, terminal operators and shipping lines to shift toward shore power, quickly and incrementally. Industry must continue taking steps today to ensure land-side infrastructure is put in place at all terminals subject to regulation and the necessary number of ships are equipped for shorepower.

Additionally, this regulation would create a backstop to lock-in emission reductions committed to through the San Pedro Bay Ports' Clean Air Action Plan (CAAP). Implementation of the CAAP will be hastened and more certain if ARB requires these more immediate, short-term reductions. Finally, a strong statewide regulation will ensure emission benefits are shared at ports statewide. CARB must keep its statewide commitment to ensure penetration of this technology.

*Recommendation: ARB should incorporate and require, at a minimum, the goal articulated in the GMERP – 20% of all ship visits to CA's ports should use shorepower by 2010. Further, ARB should include an additional interim goal that by 2012, 40% of all ship visits should be required to use dockside power. Finally, 60% of vessel visits should be required by 2014 and 80% by 2016.*

**ORIGINAL:** Board Clerk  
**Copies:** Executive Officer  
Chair

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<sup>1</sup> California Air Resources Board, 'Draft Goods Movement Emission Reduction Plan', December 2005. Note ARB only calculated international contributions to the goods movement system in this iteration of their Emission Reduction Plan.

**2) Alternative controls through the regulation's Emission Reduction Option provision must be limited to viable strategies, guarantee equivalent emission reductions and be subject to public review**

In the current proposed regulation, operators are allowed to use alternative methods to comply with the regulation by showing they can achieve equivalent reductions through an alternative approach. However, the current regulation does not propose sufficient criteria for determining which alternative strategies would provide quantifiable and enforceable emission reductions and would benefit nearby communities as well as regional air quality.

We are deeply concerned that this provision may create a significant loophole. For example, we strongly suggest that statewide fleet averages are specifically eliminated as an alternative control strategy given the difficulty to enforce them and the likelihood for disproportionate emission impacts on local communities. Additionally, ARB must not allow operational controls (e.g. shorter ship visits, lower auxiliary engine loads while at dock, etc.) to meet these requirements. We believe only measures that are verifiable, reproducible, and enforceable should be permitted to satisfy this provision.

We also urge ARB to consider and help monitor the air emissions benefits of alternative shoreside power technologies as means to achieve more immediate emissions reductions and complement the use of shore power. For example, the Port of Oakland successfully demonstrated a shoreside generator that will be operated on natural gas in a pilot project to determine its feasibility and environmental impacts. This technology should be considered as an option if proven to achieve significant, verified emissions reductions, particularly as an interim solution until electric infrastructure is widely available at ports and terminals.

Other technologies should also be considered as a means to achieve shorter term reductions to complement the use of shorepower, such as the "bonnet" technology being tested in Long Beach that captures smokestack exhaust at the dock and cleans it with on-shore SCR technology. ARB's leadership in evaluating these alternative technologies would be beneficial to all stakeholders.

Finally, ARB must include specific language to clarify that upon adoption of this regulation, the use of shorepower will no longer exempt an operator from the requirements of current or future marine rules. California needs a full suite of control measures which build on one another to address pollution from ships - not one measure that can rely on any number of alternative options—many of which may be the subject of future regulation.

*Recommendation: ARB must clearly define a limited number of viable strategies as alternative controls and must provide an opportunity for public review and comment on their viability to produce real, enforceable and quantifiable emission reductions otherwise required by this regulation. Also, specific language must be included to clarify that upon adoption of this regulation, the use of shorepower will no longer exempt an operator from the requirements of other current or future marine rules.*

**3) Greenhouse Gas Reductions must be fully quantified and incorporated into the regulation**

We expect greenhouse gas (GHG) reductions from this regulation to be significant. We are pleased that this rule is now proposed to be a part of the implementation of AB 32, the Global Warming Solutions Bill, early action measures. ARB must ensure that all GHG reductions are quantified and that ARB's analysis of regulatory costs, health benefits and cost-effectiveness incorporates these reductions by apportioning part of the costs to GHG reductions. We would be happy to work with staff in development of an assessment methodology for GHGs.

*Recommendation: ARB must quantify the GHG reductions associated with this rule. Further, ARB's analysis of regulatory costs, health benefits and cost-effectiveness must adequately account for these reductions.*

**4) ARB must perform their own due diligence of industry provided cost estimates before finalizing the cost effectiveness calculations**

While we support soliciting cost estimates from stakeholders on infrastructure and ship retrofit costs, we are concerned that relying heavily on port derived information may result in inflated cost estimates. For example, it appears that the cost for infrastructure per berth is now estimated at \$5 million. This estimate is double what ARB had previously used earlier this year in the context of the air quality bond fund discussions. Additionally, for terminals with multiple berths, it seems logical that economies of scale would result since major infrastructure costs could be spread across multiple berths. For example, there are 16 terminals at the Ports of Los Angeles and Long Beach comprising 48 berths.

Similarly, on the ship-side, the \$1.5 million per ship cost also appears quite high. This is a significant change from staff's presentation at June 1<sup>st</sup> workshop which stated that most ship-side cost estimates were under \$1 million. While we can appreciate ARB using a conservative estimate, it is our understanding that cost estimates per ship at that price would result from the addition of a transformer (\$1 million by itself). It is also our understanding that the majority of new, large container ships do not require such a transformer since they are typically already built to accommodate 6.6kV. In addition, as staff mentioned at the September 24<sup>th</sup> workshop, NYK has developed a system that will provide the necessary grid-based shorepower capability for \$600,000. Finally, Environ's cold ironing feasibility study found ship retrofit costs averaging roughly \$500,000 with costs as low as \$200,000.

*Recommendation: We strongly encourage ARB not to solely rely on industry provided cost estimates. ARB's cost effectiveness analysis should incorporate current trends in ship design, economies of scale and recent technological developments which may impact costs.*

**5) ARB must fully quantify the health benefits of this regulation including quantification of secondary particulate formation from sulfur oxides**

Sulfur oxides are a significant precursor to PM<sub>2.5</sub> emissions.<sup>2</sup> As you are aware, ARB's GMERP finalized in April of 2006 did not fully quantify the health impacts associated with the secondary particulate formation of sulfates. The plan did note however that as new information emerges about the contribution of sulfates to the health impacts from ambient levels of fine particles, it may be necessary to accelerate implementation of the strategies in the plan (GMERP at p. 119). It is our understanding that ARB anticipated folding in these health impacts over the course of ensuing months. Based on the most recent scientific data, ARB should incorporate these impacts into the analysis of regulatory costs and health benefits to fully capture the morbidity and mortality associated with ship pollution.

*Recommendation: ARB's staff report should fully reflect the health benefits of this regulation and incorporate the most recent scientific research include impacts from particulate sulfate.*

**6) ARB must include tankers, bulk carriers and tugs as part of this regulation**

We believe that tankers, bulk carriers and tugs should not be exempted from this regulation. Tankers remain a major contributor to port emissions. Tankers account for roughly 20% of ship visits to California.<sup>3</sup> Further, 45% of tanker visits are to Bay Area ports. Bulk carriers are also a significant contributor to hotelling emissions and are expected to be the second largest NO<sub>x</sub> contributor of the various vessel categories in 2010 – second only to container ships. Finally, ARB has continued to delay including shorepower for tugs, first as part of the harborcraft regulation and now in the current form of this rule. ARB must step in to ensure these sources do not emit pollution while sitting idle for extended periods of time in California's harbors.

*Recommendation: ARB must reinsert tugs, bulk carriers and tankers as part of this regulation and require them to meet the same timelines as other vessels.*

**7) The exemption for low fleet visits must be tightened**

The regulation in its current form exempts container fleets that visit a port less than 25 times per year and passenger ships that visit less than 5 times per year. Although staff stated that this would roughly exempt 3% of all containership visits, we are concerned that this may evolve into a significant loophole if this requirement is not revisited regularly. Further, the current threshold for passenger ship visits would exempt roughly 25% of all passenger ship visits to the Port of San Francisco. Given the limited number of passenger ship terminals in California, we strongly believe each of these should be equipped with shorepower infrastructure. Additionally, passenger vessels can remain in port for extended periods of time and, of course, operate with hundreds of people on

<sup>2</sup> CARB, 'Staff Report Proposed 2007 State Implementation Plan for the South Coast Air Basin – PM<sub>2.5</sub> Annual Average and 8-Hour Ozone National Ambient Air Quality Standards', September 21, 2007, p. 25.

<sup>3</sup> CARB, 'Evaluation of Cold-Ironing Ocean-Going Vessels at California Ports', Executive Summary, March 2006, p. ES-12.

board and in close proximity to port communities. For these reasons, we strongly recommend that all passenger ships meet the requirements of this regulation.

*Recommendation: At a minimum, ARB must evaluate annually that total exempt container ship visits do not exceed 3% per year. Also, ARB must ensure that all visiting passenger ships meet the requirements of the regulation.*

#### **8) ARB must implement strong enforcement provisions**

We strongly urge ARB to include strong enforcement provisions into this regulation. We recommend that all OGVs be required to provide supporting documentation to ARB enforcement officials upon request and that quarterly progress reports are made public. We also recommend that the appropriate authority enforce this regulation by conducting frequent terminal checks, both to monitor shorepower infrastructure development progress and the actual usage of shorepower by docked vessels. Finally, we urge ARB to work with other state and federal agencies to gain efficiencies in enforcing this regulation.

*Recommendation: ARB must implement strict enforcement procedures to ensure proper compliance with the regulation.*

#### **CONCLUSION**

We support regulation as the primary mechanism for implementing shorepower for ships in California. We look forward to continuing to work with ARB to help develop an aggressive and achievable regulation that will benefit public health and the environment. We want to reemphasize the urgent need to address this source of pollution given the magnitude of the public health impacts from port operations and their growing impacts. Ultimately, an approach to shorepower must be aggressive to take full advantage of emission reductions and the potential to further protect public health.

Thank you very much for considering our comments on the Draft At-Berth (Shore Power) Ocean-Going Vessel Regulation. We look forward to continuing to work with you and your staff.

Sincerely,

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