



December 1, 2005

Mrs. Barbara Riordan, Interim Chair
and Board of Directors
California Air Resources Board
P. O. Box 2815
Sacramento, CA 95812

Re: Adopt Proposed Regulation for Auxiliary Diesel Engines and Diesel-Electric Engines Operated on Ocean-Going Vessels Within California Waters and 24 Nautical Miles of the California Baseline

Dear Chair Riordan and Air Resources Board of Directors,

On behalf of our 10,000 supporters and members in California, Bluewater Network strongly urges you to adopt as proposed by ARB staff the Regulation for Auxiliary Diesel Engines and Diesel-Electric Engines Operated on Ocean-Going Vessels within California Waters and 24 Nautical Miles of the California Baseline. This item will be voted on at your December 8 and 9 board meeting.

Bluewater Network works to stop environmental damage from vehicles and vessels, and to protect human health and the planet by reducing dependence on fossil fuels. The organization is a division of Friends of the Earth – the U. S. voice of the world's largest network of environmental groups with one million supporters in 70 countries across five continents.

We hope you will support the regulation because it provides immediate and substantial reductions in emissions from ship auxiliary engines upon implementation in 2007 without hindering the movement of goods at California ports. This is achieved by requiring ocean-going vessels to switch from heavy marine bunker fuel to cleaner marine distillate fuel when within 24 miles of the California coast. Shipping emissions contribute an increasingly large portion of criteria air pollutants to our air and are expected to escalate as cargo volume doubles or triples in the next two decades. This is the first step in a statewide effort to reducing shipping emissions.

This cost-effective regulation applies a statewide marine fuels and emissions standard to auxiliary engines on-board all ocean-going ships, including passenger cruise ships that visit California ports. It will benefit California residents, visitors, port workers, ship passengers and crew by reducing exposure to cancer-causing diesel exhaust emitted by ship auxiliary engines. The regulation will result in an estimated 75 percent reduction in diesel PM, 80 percent reduction in SOx and a 6 percent reduction in NOx from an auxiliary engine that previously used typical heavy fuel oil.

We strongly support the provisions requiring compliance out to 24 nautical miles because this is where most of the emissions occur and blow on shore. The inclusion of diesel-electric engines in the regulation is important because of the large volumes of pollution per ship produced by cruise ships and other vessels using this technology. The implementation timeline is also supported because the need for these emissions reductions is urgent and the regulation is feasible and flexible.

We believe that this regulation is an important step in California's urgent efforts to reduce diesel exhaust emissions as part of its Diesel Risk Reduction Plan and State Implementation Plan. Unless air pollution control measures such as this regulation are implemented, port-related emissions will escalate tremendously. If action is not taken, port communities and California residents will continue to suffer from increased cancer risk and incidence of asthma and other diseases.

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Your action on this rule is likely to directly effect the direction of future state shipping-related rules, the California Goods Movement Action Plan, and pollution reform at Los Angeles, Long Beach and other ports. Supporting this regulation may indirectly help accelerate national and international efforts to reduce air pollution from port sources. Once again, the world is watching what California is doing. Please stand strong and stay the course on this regulation so that the state can once again lead the way to cleaner air at home and beyond its borders.

Detailed comments

You will be considering a number of issues related to this proposed regulation including emissions reductions, public health benefits, cost-effectiveness, regulation specifics, legal authority, and safety. Please consider our comments on each of these points when making your decision:

Diesel Emissions Reductions

This regulation will remove thousands of tons of pollution from the air over the first 15 years of implementation. Particulate Matter emissions from ship auxiliary engines along the California coast are expected to triple by 2020 without this measure from 4 to 12 tons per day. With this measure, PM emissions from ship auxiliary engines will be reduced to 1 to 2 tons per day.

In just the first year of implementation in 2007 the following reductions will be achieved:

PM, 730 tons per year

NOx, 575 tons per year

SOx, 5,800 tons per year

Public health benefits

Diesel exhaust has been associated with a wide range of adverse health impacts in numerous studies, including premature deaths and increased cancer risk. Ultimately, this rule will improve the health of residents living near ports and international shipping lanes, potentially leading to fewer asthma attacks, respiratory and cardiac hospital admissions, and other health impacts. This regulation will provide significant and measurable benefits.

Between 2007 and 2020, the regulation will prevent:

520 premature deaths

14,000 asthma attacks

120,000 lost work days

650,000 minor restricted activity days

Cost-effectiveness

This regulation is extremely cost-effective for reduction of cancer-causing particulate matter at \$26 per pound when all costs are attributed to PM reduction. When half the costs are attributed to reductions in NOx and SOx, the cost efficiency for PM is reduced to \$13 to \$14 per pound. It is also cost-effective overall for criteria air pollutants compared to other regulations and state standards:

PM \$26 per pound; \$52,000 per ton

NOx \$33 per pound; \$66,000 per ton

SOx \$3.20 per pound; \$6,600 per ton

The cost for industry to comply is modest at about \$1 per container or \$8 per cruise ship passenger. The annual cost is estimated to be \$100,000 per year for a cargo vessel and up to \$500,000 per cruise vessel. These costs will simply be passed onto consumers. According to a study conducted for Oceana in 2004, cruise passengers are willing to pay up to \$25 per cruise to make it more environmentally friendly.

Only 10 percent of ships will require modification to comply with the regulation, and they can wait up to five years to do so.

Diesel-electric engines and cruise ships

Cruise ships produced 80 percent as many smog-forming emissions and nearly 90 percent of the particulate matter emissions of container ships even though the cruise ships made only 15 percent of the number of port calls. Cruise vessels with 44 ships and 687 calls produced the second highest in emissions after container vessels with 594 vessels and 4,744 calls.

The two reasons for this pollution imbalance are that cruise ships use diesel-electric engines for main propulsion as well as auxiliary uses and that the power requirements on-board a cruise ship far exceed that of a cargo or container ship. As a result, cruise ships burn more fuel and produce more emissions per ship than a cargo or container ship both at dock and while transiting state waters.

Cruise lines already switching to cleaner fuels

Diesel-electric engines are well-equipped to burn cleaner marine distillate fuel. In fact, several cruise lines already do so. Crystal Cruise Lines has a company policy to burn cleaner fuels in California waters. Princess Cruise Lines recently entered into an agreement with the Port of San Francisco to use clean marine distillate fuels while operating in San Francisco Bay. Carnival Cruise Line also reportedly uses cleaner fuels while in California coastal waters.

Cruise industry profitability

It should be noted that the cruise industry is extremely profitable in part because most of the cruise companies with headquarters in the US avoid paying corporate income tax by registering its corporation and ships overseas. The cruise lines do not pay environmental mitigation fees for air or water pollution when visiting California ports. The industry is indirectly subsidized by the state and by taxpayers because it does not generally pay for the construction or maintenance of cruise terminals, city infrastructure, medical and emergency services, public transit and other amenities that its passengers enjoy when visiting a California port.

Carnival Cruise Line is the most profitable travel company in the world, according to Cruise Industry News. Pacific Maritime Magazine just reported that the Carnival Corporation reported record profits \$1.15 billion in the third quarter of 2005 despite surging fuel costs.

Because cruise ships produce significant volumes of air pollution even with fewer ships and port calls compared to other ocean-going vessels, it is important to include their diesel-electric engines in the rule. And given the profitability of the industry and the economic benefits it enjoys from California ports, it is extremely reasonable to require the cruise ships to comply with the ship auxiliary engine rule as proposed by staff.

Legal authority

The state of California has established its legal authority to regulate air pollutants from marine vessels under state and federal law. It is spelled out in the staff report. Legal issues are not a valid reason to delay or modify the rule.

The global shipping and oil industries may argue that their industries are better regulated at the international level, and we agree. In fact, the Air Resources Board has recognized this fact by including language that rescinds this regulation if stronger international or federal laws are enacted. However, until now, the international shipping industry has resisted initiatives to require cleaner fuels and engines by blocking action at the International Maritime Organization and in Washington DC. **As a result, the state of California must act to protect its air quality from the emissions from these unregulated international polluters. The public health and lives of California residents should no longer be compromised in the name of corporate shipping interests.**

Safety

The safety of switching between different types of marine fuels has been established in practice and explained in the staff report. There is no reason to modify the regulation due to safety issues.

In fact, we are concerned that the shipping and oil industries may be overstating safety concerns related to fuel switching in order to protect international corporate interests and avoid regulation at the expense of the public health and air quality in California. We suspect this because the shipping and oil industries have been involved in the development of this regulation for more than two years and staff has modified the rule several times to address industry concerns. Safety was never brought up as a major issue until recently.

Marine fuel switching on board vessels

The world's top engine manufacturers in the ocean-going vessel market have both stated publicly and in technical documents that marine fuel switching can be conducted safely provided certain operational steps are taken. The ship operator must ensure proper lubrication and temperatures in the engine.

At the Hagen-Smit Symposium this year sponsored by the California Air Resources Board, technical experts from Man B & W and Wartsila stated that despite the shipping industry's reluctance to acknowledge it, fuel switching is technically and operationally feasible for large marine engines.

Shipping lines already switching fuels

Shipping lines including Crystal Cruise Line, Princess Cruise Line, NYK Line and others have stated that they already switch fuels. POSCO Ships coming into San Francisco Bay have been switching fuels for 15 years without any spills or accidents.

Fuel switching common

Fuel switching was standard before engines were modified to burn cheap, dirty bunker fuel which needs to be heated to run in a diesel engine. Most ships routinely switch over to marine distillate fuels before entering dry dock to prevent bunker fuel solidifying in the fuel lines. A related point is that fuel switching applies to auxiliary, not propulsion engines, so loss of propulsion is not likely.

Crew competence and training

The shipping industry makes claims that crews may not be trained to properly conduct fuel-switching. It is the responsibility of each ship owner and operator to ensure that its crew is trained to conduct safe operations on board every ship.

To claim that ship crews would be unable to safely conduct fuel switching if required is an egregious shirking of the ship industry's responsibility to its crew, its customers and the state of California to ensure safety at sea.

Other options

Ship operators have the option of using measures other than fuel switching to comply with the regulations if its ships or crew choose not to conduct fuel switching.

No evidence of accidents or spills

The shipping industry has not provided to ARB staff any evidence of accidents, spills or injuries that have ever occurred as a result of fuel switching operations.

Safety Provision Recommended

In any case, to address concerns about safety at sea, we urge the ARB staff to include a safety provision in the regulation that would allow a ship operator to consider safety factors when deciding when or whether to switch fuels.

Conclusion

This regulation is an important step in California's efforts to reduce diesel exhaust emissions from ports in California as part of its Diesel Risk Reduction Plan and State Implementation Plan. Unless air pollution control measures such as this regulation are implemented, port-related emissions will escalate tremendously as shipping volume double or triples over the next 10 to 20 years.

We urge you once again to adopt this regulation as proposed by staff.

Sincerely yours,

Teri Shore
Clean Vessels Campaign Director