

TESTIMONY OF THE STATE ATTORNEY GENERAL TWENTY-FOURTH LEGISLATURE, 2008

ON THE FOLLOWING MEASURE:

S.B. NO. 2526, S.D. 1, RELATING TO AIR POLLUTION CONTROL.

BEFORE THE:

HOUSE COMMITTEE ON TRANSPORTATION

DATE: Wednesday, March 19, 2008 **TIME:** 10:00 AM

LOCATION: State Capitol Room 309
Deliver to: State Capitol, Room 441, 5 copies

TESTIFIER(S): Mark J. Bennett, Attorney General
or Edward G. Bohlen, Deputy Attorney General

Chair Souki and Members of the Committee:

The Department of the Attorney General has concerns that Senate Bill No. 2526, S.D. 1, has potential legal problems with requiring cruise ships to use .5 percent or lower sulfur fuel instead of bunker fuel. It appears that the federal government has pre-empted, via the Clean Air Act, section 209(e)(1), the State's authority to legislate such a requirement.

The purpose of this measure is to establish a three-year pilot program to determine the current level of health and environmental impact of air pollution caused by cruise ships running their engines on bunker fuel while moored in Nawiliwili harbor, and the effect, if any, of requiring the cruise ships to switch to a .5 percent or lower sulfur fuel instead of bunker fuel.

The required use of .5 percent or lower sulfur fuel is problematic because it is very likely that the regulation of the sulfur content of fuel oil has been pre-empted by the federal Clean Air Act, section 209(e)(1), which provides that "No state or any political subdivision thereof shall adopt or attempt to enforce any standard or other requirement relating to the control of emissions from non-road engines." Cruise ship marine engines are considered to be "non-road engines" under the federal Clean Air Act. On February 27, 2008, the United States Court of Appeals for the Ninth

Circuit, in Pacific Merchant Shipping Association v. Goldstene, F.3d, 2008 WL 509213 (9th Cir. Feb. 27, 2008), struck down California's Marine Vessel Rules, which required ships operating in California's waters to either burn low sulfur fuel or utilize other "alternative emission control strategies," so that "the emissions of any auxiliary engine must not exceed 'the emission rates that would result had the engine used the fuel' with a sulfur content of no more than 0.5 percent by weight." Cal. Code Regs. tit. 13, sec. 2299.1(e)(1). The Court found that California's Marine Vessel Rules were, in effect, emission standards that were pre-empted by section 209(e)(1) of the Clean Air Act, and that California would have to obtain a waiver from the Environmental Protection Agency under section 209(e)(2) of the Clean Air Act before it could implement the rules.

Even though this measure, as amended, now only requires that the cruise ships burn .5 percent or less sulfur fuel, and no longer states that its purpose is to reduce air emissions, it is still most likely a "standard or other requirement relating to the control of emissions." Since it is likely that this measure requiring the use of .5 percent sulfur fuel is considered an air emission standard, under Pacific Merchant, it would be pre-empted by 209(e)(1) of the Clean Air Act.

This measure, in section 1, also cites the pending legislation in the 110th Congress of the United States identified as S. 1499: Marine Vessel Emissions Reduction Act of 2007. (S. 1499). S. 1499 would reduce air pollution from marine vessels by regulating marine engine fuels containing high amounts of sulfur. If S. 1499 becomes law, not only would it be proof that Congress recognizes that the regulation of the sulfur content in marine engine fuels is an air emission standard for controlling air pollution from marine engines, it would also clearly pre-empt this measure's regulation of marine engine fuels.

To correct this problem, the Department of the Attorney General would suggest adding to the measure wording making the second phase of the project "subject to EPA approval."

Finally, we note that there is no appropriation in the bill to help the Department of Health offset the additional costs, and the hiring of additional employees, that this program would necessitate.



SIERRA CLUB Kaua'i Group of the Hawai'i Chapter
Post Office Box 3412, Lihue, Kauai, Hawai'i, 96766

March 17, 2008

VIA EMAIL: TRNtestimony@capitol.hawaii.gov

TO: House Transportation Committee
DATE: Wednesday, March 19, 2008
TIME: 10:00 AM
PLACE: CONFERENCE ROOM 309

RE: Testimony in Strong Support of SB 2526 SD1 Relating to Air Pollution Control

Dear Chair Souki and Committee Members:

The Kauai Group of the Sierra Club strongly supports Senate Bill 2526 SD1 which creates a three-year pilot program to determine the current level of and health and environmental impact of air pollution caused by bunker fuel-burning cruise vessels docked or moored in Nawiliwili Harbor.

The consistency of Kaua'i trade winds brings concentrated bunker smoke emission plumes from the harbor through Niualu valley where residents are severely affected. The negative health impacts and mortality rates associated with this pollutant have been documented – bunker fuel emissions are toxic and carcinogenic.

There is an urgent need for the department of health to implement this program to determine the levels of airborne pollutants in Nawiliwili Harbor, to report to the legislature and to quantify the benefits of cruise ships switching to .5 per cent or lower sulfur fuels while docked or moored.

Retrofitting ships to enable vessels to switch from bunker fuel to a cleaner fuel will lessen environmental and public health impacts, and preserve economic viability for the industry.

Please support SB 2526 SD1. Thank you for the opportunity to comment.

Sincerely,

Rayne Regush, on behalf of
Sierra Club, Kauai Group Executive Committee



March 18, 2008

VIA ELECTRONIC MAIL

TRNtestimony@Capitol.hawaii.gov

House Transportation Committee

Date: Wednesday, March 19, 2008

Time: 10 a.m.

Place: Conference Room 309

State Capitol

415 South Beretania Street

INTRODUCTION¹

Thank you for the opportunity to submit testimony in support of SB 2526 - RELATING TO AIR POLLUTION CONTROL.

THE PROBLEM

Category 3 (“C3”) marine diesel engines—which are used in ocean-going vessels such as container ships, cargo ships, tankers, and cruise ships (cruise ships also use diesel-electric engine configurations)—are among the largest engines in the world. They generally burn residual fuel oil, a very low-grade petroleum-based “bottom of the barrel” fuel that is the byproduct of refining crude oil into higher-grade products, and that has substantially higher ash, sulfur, and nitrogen content than other fuels.² The emissions from these engines contribute significantly to national ozone, carbon monoxide (“CO”), hydrocarbon (“HC”), sulfur oxide (“SOx”), nitrogen oxide (“NOx”), and particulate matter (“PM”) levels, especially in communities near commercial ports or coastal shipping routes such as Seattle, Oakland, Los Angeles, Santa Barbara, New Orleans, and New York. 72 Fed. Reg. at 69526-69529.

The engines on ocean-going vessels are, on a relative basis, some of the largest anthropogenic sources of air pollution in the world, yet remain one of the last major source categories of air pollution to be adequately controlled. A recent industry report to the IMO on global emissions from ocean-going vessels estimates that for the year 2007, marine engines were responsible for 25.8 million metric tons of NOx, 16.2 million metric tons of SOx, 1.8 million metric tons of PM, and a shocking 1.12 *billion* metric tons of CO₂—more than is emitted by all of the world’s oil refineries.³ This report also predicts that these emissions will increase by as much as 40 percent by 2020 and that fuel consumption, the majority of which is residual fuel consumption, will grow by more than 30 percent.⁴

Already, the United States’ emission inventory for C3 marine engines has far surpassed what EPA had previously predicted for the year 2030.⁵ It turns out that in the year 2007, these engines were responsible for 870,000 tons of NOx and 66,000 tons of PM in the U.S.⁶ This represents nearly a four-fold increase in pollution in just seven years. Moreover, EPA now estimates that by 2030, ocean going vessels will account for, at a minimum, 34 percent of the country’s mobile source NOx emissions, 45 percent of fine PM emissions, and 95 percent of U.S. SOx emissions.⁷

I. Global Scope of the Problem

The severity of the public health impacts from such high levels of pollution is undeniable. The number of people dying from heart and lung disease as a result of under-regulated shipping emissions totaled 60,000 in 2002, and that death

¹ Technical and legal assistance for this submission was provided by Sarah Jackson and Sarah Burt, Esq., respectively, of Earthjustice.

² See EPA, “Final Regulatory Support Document: Control of Emissions from New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder,” at 3-34 (January 2003)(“2003 RSD”).

³ Note by the Secretariat, “Report on the outcome of the comprehensive study undertaken by the Informal Cross Governmental/Industry Scientific Group of Experts established to evaluate the effects of the different fuel options proposed under the revision of MARPOL Annex VI,” at 5 and 14, submitted to the IMO subcommittee on Bulk Liquids and Gases (Dec. 20, 2007)(“IMO Expert Report”) available at <http://imo.amsa.gov.au/public/2008/blg12.htm>.

⁴ *Id.* at 5.

⁵ See 72 Fed. Reg. at 69526 and 68 Fed. Reg. 9746, 9755 (February 28, 2003) (“2003 Final Rule”).

⁶ 72 Fed. Reg. at 69526.

⁷ 72 Fed. Reg. at 69545-69546.

Friends of the Earth's Written Comments to Hawaii House Transportation Committee, March 19, 2008 toll is estimated to grow by 40 percent by 2012 due to the rapid increase in global trade and shipping traffic.⁸ As EPA points out, most of our nation's most serious ozone and PM nonattainment areas are located along U.S. coastlines and shipping channels where C3 ships contribute to ambient levels of NOx, SOx, and fine PM, as well as volatile organic compounds ("VOCs"), CO, and toxic air contaminants such as diesel exhaust. 72 Fed. Reg. at 69526. These areas also happen to be where tens of millions of the nation's people live. *Id.* at 69527.

II. General Public Health Impacts

Diesel exhaust contains a multitude of toxic substances and is highly respirable. Diesel exhaust itself is considered toxic and carcinogenic, as the chemical components include several hazardous air pollutants or air toxics.⁹ Diesel exhaust consists of tiny particles that easily collect organics and can penetrate deep into the lungs.¹⁰ Exposure to diesel exhaust can cause increased risk of lung cancer, adverse pulmonary effects, and allergenic effects such as those associated with asthma or immunologic effects.¹¹

In addition, diesel combustion is a major source of emissions of primary fine particulate matter (PM_{2.5}). The U.S. EPA recently compiled for the 2004 EPA review of Air Quality Criteria for Particulate Matter over 3000 new studies that link particulate matter with various adverse health effects.¹² Short-term effects from particulate matter include "premature mortality, increased hospital admissions, heart and lung diseases, increased cough, adverse lower-respiratory symptoms, decrements in lung function and changes in heart rate and other cardiac effects."¹³ Moreover, diesel combustion also produces NOx, a precursor to ozone or ground-level smog. Ozone can cause a number of adverse human health impacts such as chest pain, shortness of breath, reduced lung function, inflammation of lung tissue, and exacerbation of asthma.¹⁴ Recent studies also suggest that ozone is related to stunted lung development in children.¹⁵

III. Low-Sulfur Fuel - Marine Distillate Oil

i. Emission Reduction Benefits

Marine distillate oil, comprised of marine diesel oil and marine gas oil, contains vastly less sulfur than residual fuel. When combusted, a fuel with significantly less sulfur produces far fewer sulfur oxides and less particulate matter. Therefore, marine distillate presents a much cleaner fuel alternative to residual fuel. The California Air Resources Board ("CARB") expects that moving from residual fuel (with sulfur content of approximately 25,000 ppm) to 1,000 ppm marine gas oil will reduce PM, SOx, and NOx by 83 percent, 96 percent, and 6 percent, respectively.¹⁶ Similarly, a recent evaluation involving a container ship using 22,900 ppm residual fuel (the average U.S. west coast sulfur content level) switching to 1,000 ppm marine gas oil found that PM, SOx, and NOx would decrease by 78 percent, 94 percent, and 6 percent, respectively.¹⁷ Finally, the U.S. proposal to the IMO, which would require use of 1,000 ppm distillate in coastal areas, is projected to reduce PM by 65 percent and SO₂ by 78 percent by 2020.¹⁸

ii. Reduced Operational Costs & Greater Emission Control Compatibility

Marine distillate is compatible with existing engine systems and its use generally requires no engine modifications. Being a cleaner and higher quality fuel than residual fuel, use of distillate reduces engine wear and the need for maintenance and lubricating oil, resulting in improved engine performance.¹⁹ Marine distillate use also results in less

⁸ See Corbett, J.J., and Winebrake, J., *Mortality from Ship Emissions: A Global Assessment*, Environmental Science and Technology, (November 7, 2007), available at <http://pubs.acs.org/cgi-bin/sample.cgi/esthag/asap/pdf/es071686z.pdf> and Friends of the Earth International, "Avoided Global Premature Mortality Resulting from Reduction of Sulphur in Marine Fuel," submitted to the IMO subcommittee on Bulk Liquids and Gases (January 25, 2008)(together, "Mortality Studies"), available at http://www.catf.us/projects/international_air_quality/shipping/mortality_from_shipping_global_assessment/200801-FOEI_control_scenario_submission.pdf.

⁹ 72 Fed. Reg. at 69532, 69534. Marine diesel engines also produce other air toxics, such as benzene, 1, 3-butadiene, formaldehyde, acetaldehyde, acrolein, polycyclic organic matter, and naphthalene, exposure to which can cause or contribute to cancer and non-cancer health effects.

¹⁰ *Id.*

¹¹ 72 Fed. Reg. at 69533.

¹² EPA (2004) Air Quality Criteria for Particulate Matter (October 2004), Vol I Document No. EPA600/P-99/002aF and Vol II Document No. EPA600/P-99/002bF.

¹³ 72 Fed. Reg. at 69530.

¹⁴ See 72 Fed. Reg. at 69531-69532.

¹⁵ Plopper, C.G. et al. *Air pollution effects in a primate model of asthma*. Abstract and presentation, HEI Annual Conference, Washington DC; Program and Abstracts; Health Effects Institute, Cambridge MA.

¹⁶ James Winebrake and James Corbett, *Technical Memorandum: Total Fuel Cycle Analysis for Container Ships: A Comparison of Residual Oil, Marine Gas Oil and Marine Diesel Oil*, (2007) at 3-4. Prepared for FOE (copy resides with author).

¹⁷ *Id.*, at 6.

¹⁸ IMO Expert Report, at 35.

¹⁹ *Id.*

Friends of the Earth's Written Comments to Hawaii House Transportation Committee, March 19, 2008 engine room waste²⁰ and enables oil/water separators to function more effectively. In addition, because residual fuel is highly viscous (it is essentially solid at room temperature), it requires heating and filtration before it can be combusted. These heating and filtration systems are not necessary for combustion of distillate,²¹ therefore operating expenses and space requirements for these systems are reduced. All of these cost savings help offset the price differential between distillate and residual fuel.²² Lastly, the low sulfur content in marine distillates allows for additional reductions of NOx and PM from both *new and existing* engines using after-treatment emission control devices such as SCR that work more effectively in the presence of lower-sulfur fuel.²³

iii. Technical Feasibility

Switching from bunker fuel to 5,000 ppm marine distillate, and even distillates with lower sulfur content, is common practice within the shipping industry.²⁴ Concerns about fuel switching safety and capabilities are unfounded. EPA itself admits that fuel switching takes place routinely and safely whenever a ship's engine is to be shut down for maintenance. Many ships also routinely switch from residual fuel to marine distillate fuel during visits to California ports. NYK Line's vessels report no operational problems when they switch to low sulfur fuel while in the Port of Los Angeles. Furthermore, all auxiliary engines are certified by the manufacturer to IMO NOx standards through engine testing while the engine is operating on a distillate fuel, since heavy fuel oil properties are too variable to achieve reliable test results.²⁵

A more holistic economic evaluation of marine distillate and residual fuel use, incorporating operational expenses, reveals that overall costs associated with the two fuel types may be more comparable. On balance, when taking into account the harms caused by NOx, SOx, and PM emissions, technical feasibility, and cumulative costs, switching from residual fuel to marine distillate is a sensible, beneficial environmental policy.

iv. Fuel Availability

The question of fuel availability has been investigated in depth by CARB during the development of its Auxiliary Rule. CARB found that marine distillate fuels meeting the first tier of California's standards, essentially 5,000 ppm, are currently (as of 2005) available in most areas throughout the world. Furthermore, the amount of marine distillate fuel needed for every ship that operates in California waters to meet the standards adopted by California (approximately 46 million gallons) would equate to less than one percent of the current (2005) marine distillate sales worldwide (28.4 million metric tons).²⁶ Moreover, analysis undertaken by CARB, based on 2007 DNV data from 21 ports worldwide including the Pacific Rim and U.S. west coast, indicates that marine distillate (DMA and DMB) samples averaged 4,300 ppm, less than the 5,000 ppm proposed in the amended version of SB 2526.²⁷ Thus, there is little debate that marine distillate containing 5,000 ppm, and even less, is widely available for use by the cruise ship industry.

IV. Cost-Benefit Analysis

The public health and environmental costs of failing to adequately regulate emissions from C3 marine vessels far outweigh the costs of regulation. Because C3 marine engines are globally under-regulated, governments, businesses, and local communities are forced to bear the health and environmental costs of uncontrolled operation. This allows operation of C3 vessels to remain artificially inexpensive. As EPA's explains in a recent document:

emissions from Category 3 marine engines impose significant public health and environmental costs on society. However, these added costs to society are not reflected in the costs of those using these engines and equipment. The market system itself cannot correct this negative externality because firms in the market are rewarded for minimizing their operating costs, including the costs of pollution control. In

²⁰ Erik Ranheim, Manager, Research and Projects (INTERTANKO), Presentation for International Ship-Owners Alliance of Canada, Vancouver, September 27, 2007, PowerPoint presentation, slide 9 (copy resides with author).

²¹ *Id.*

²² Low-sulfur fuel can cost from 50-72 percent more than residual fuel. IMO Expert Report, at 17.

²³ Friends of the Earth International, "Reducing Shipping Emissions of Air Pollution—Feasible and Cost-effective Option," submitted to IMO's Marine Environment Protection Committee, April 7, 2005, MEPC 53/4/1, at 9 ("FOEI Cost-effective options"), available at <http://www.bluewaternetwork.org/reports/cv/imoairpollution.pdf>.

²⁴ See Gary Craft's written submission to the House Transportation Committee for March 19, 2008, for supporting information as to the technical feasibility of switching from bunker fuel to marine distillate.

²⁵ CARB Auxiliary Rule Staff Report, at VI-10-11.

²⁶ CARB Auxiliary Rule Staff Report, at VI-8.

²⁷ CARB Main Engine and Auxiliary Boiler PowerPoint Presentation, Slide 7, available at <http://www.arb.ca.gov/ports/marinevess/presentations/030508/030508fproppres.pdf>.

Friends of the Earth's Written Comments to Hawaii House Transportation Committee, March 19, 2008
addition, firms that may take steps to use equipment that reduces air pollution may find themselves at a competitive economic disadvantage compared to firms that do not. 72 Fed. Reg. at 69526.

A. Ocean going Vessels Have Been Under-Regulated

Under-regulation of marine vessels is evident in the disparity in sulfur fuel standards for marine vessels compared to other sources. While sulfur fuel standards for on-road and off-road land vehicles in the U.S. are at or approaching 15 ppm,²⁸ average residual fuel sulfur levels are about 27,000 ppm (22,900 on the U.S. west coast) and are permitted by international law to be as high as 45,000 ppm. Thus, marine fuel has approximately 1,800 times more sulfur content than land-based fuels. Higher fuel sulfur content translates into greater emissions of direct PM and indirect PM, such as sulfates and nitrates, which are responsible for significant environmental and public health impacts. The high level of PM and SO_x emissions from C3 marine vessels is primarily attributable to the sulfur content of the fuel they use. 72 Fed. Reg. 69525.

EPA's 2003 standards for C3 marine engines were so late and so weak (they only replicated modest IMO standards for NO_x and fuel sulfur content) that by the time EPA promulgated the rule, the standards were already insufficient, and nations were calling for improvements to the IMO Annex VI standards. 72 Fed. Reg. 69536. Moreover, EPA has thus far chosen not to regulate foreign-flagged vessels at all, even though they are responsible for nearly 90 percent of emissions in U.S. waters. *Id.*

B. Costs of Controlling Emissions Pale in Comparison to Monetized Public Health Benefits Engendered by Regulation

The increased refining needed to convert residual oil into cleaner marine distillate fuel is likely to result in greater costs to industry. However, the benefits of reducing harmful levels of pollutants emitted from C3 marine vessels make even stringent standards extremely cost-effective. The environmental and public health benefits achieved, when monetized, will far surpass any increased costs to industry. Using cost methodology employed by EPA,²⁹ a recent study estimates that the 60,000 annual deaths³⁰ attributed to global emissions from ocean going vessels carries a cost of approximately \$330 billion per year. This cost is projected to rise to nearly \$460 billion annually by 2012. These costs dwarf the estimated costs cited by the oil industry to refine cleaner fuels. A new study has found that if shippers switch to marine distillate with a sulfur standard of 1,000 ppm within 200 miles of the world's coastlines, premature mortality could be cut in half.³¹ Societal benefits of approximately \$225 billion per year would be realized just from instituting a 1,000 ppm sulfur content global coastline fuel standard.³²

The European Commission has assumed an incremental price difference of approximately \$100 per ton to lower the sulfur content of residual fuel to 5,000 ppm.³³ This cost compares favorably with land-based emission reduction efforts for sulfur, which the EPA determined fell between \$400 and \$3,400 per ton of SO₂ removed.³⁴ A 2005 study by the Swedish NGO Secretariat found that the expected human health benefits from decreasing sulfur content of residual fuel from 27,000 ppm to 5,000 ppm would surpass costs in 2020 by between 2.2 and 7.5 times.³⁵

The 2005 CARB auxiliary engine rule (which would have required all ships visiting ports in California to use low-sulfur distillate fuel in their auxiliary engines while at berth and within 24 nautical miles of the California coastline),³⁶ provides some frame of reference for the cost-effectiveness of reduced fuel sulfur measures. CARB staff found that its

²⁸ Standards for NO_x, PM, and SO_x, at 2.

²⁹ See, e.g., Nonroad RIA, available at <http://epa.gov/nonroad-diesel/2004fr/420r04007.pdf>.

³⁰ Mortality studies, p. 8512-8518.

³¹ Corbett et al., "Mitigating Health Impacts of Ship Pollution through Low-sulfur Fuel Options: Initial Comparison of Scenarios," Jan. 23, 2008, annex to Friends of the Earth International, "Avoided Global Premature Mortality Resulting from Reduction of Sulphur in Marine Fuel," submitted to the IMO's Marine Environment Protection Committee, Jan. 25, 2008, available at http://www.catf.us/projects/international_air_quality/shipping/mortality_from_shipping_global_assessment/200801-FOEI_control_scenario_submission.pdf. Almost 70 percent of global shipping emissions occur within 250 miles of shore, where a majority of the world's population lives. Corbett, J.J., P. Fischbeck, and S. Pandis, "Global nitrogen and sulphur inventories for ocean going ships," *Journal of Geophysical Research*, Vol. 104, No. D3 at 3465, 3469 (Feb. 20, 1999).

³² *Id.*; See also FOEI Cost-effectiveness options, at 14. In an analogous case, EPA estimated that the expected emission reductions from its land-based 2004 Nonroad Rule will yield monetized benefits nearly 40 times as great as the costs.

³³ FOEI Cost-effective options, at 10.

³⁴ 70 Fed. Reg. 72268 (December 2, 2005), EPA Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone ("Clean Air Interstate Rule").

³⁵ Agren, C., "Cost-benefit analysis of using 0.5% marine heavy fuel oil in European sea areas," (January 2005). The Swedish NGO Secretariat on Acid Rain, Goteborg, Sweden, available at www.acidrain.org.

³⁶ The California auxiliary engine rule standard also allowed for reductions to be achieved by using alternative emission control technology. See Cal. Admin. Code tit. 17, § 93118 (g).

Friends of the Earth's Written Comments to Hawaii House Transportation Committee, March 19, 2008 auxiliary engine rule would increase fuel costs by \$34 million a year (when the sulfur fuel standard of approximately 5,000 ppm was scheduled to be implemented). Staff also estimated total capital costs of about \$11 to \$18 million for vessel modifications.³⁷ CARB staff determined that this regulation was cost-effective and compared favorably with the cost-effectiveness of other air quality regulations adopted by the Board.³⁸ Here, vessel operators will only be required to use cleaner 5,000 ppm marine distillate for a small portion of their Hawaiian Islands trip, and thus the costs will be substantially less.

V. The Recent Decision in *Pacific Merchant Shipping Associates* by the 9th Circuit Court of Appeals Does Not Mean that SB 2526 as Amended is Pre-empted by the Clean Air Act

The amended version of SB 2526 before the House Transportation Committee does not appear to conflict with, and thus be pre-empted by, federal clean air legislation.

Section 209 of the CAA sets the parameters of preemption of state law. In section 209(e) Congress prohibits state adoption or enforcement of "any **standard or other requirement relating to the control of emissions**" from nonroad vehicles. Except for control of emissions from farm equipment and locomotives which under section 209(e)(1) are always preempted, California may apply to the Administrator for a waiver allowing CA to set more stringent standards for other nonroad vehicles. As with the regulation of motor vehicles, if such a waiver is granted, other states may adopt the CA nonroad standards. Section 209(e)(2). Conversely, if there is no such waiver (as in this case), state promulgation of emissions standards is preempted.

However, section 209(d) retains State authority to regulate the use and operation of vehicles. "Nothing in [section 209] shall preclude or deny to any State ... the right otherwise to control, regulate, or restrict the **use, operation, or movement**" of motor vehicles. (This section also applies to nonroad vehicles. *Engine Mfrs. Ass'n v. EPA*, 88 F.3d 1075, 1094 (D.C. Cir. 1996)). Thus the key issue is whether the regulation in question sets an emission standard (preempted); or whether it restricts the use, operation or movement of the vehicle (not preempted).

In the *Pacific Merchant Shipping Associates* case, the 9th Circuit's decision finding that the CARB regulation is preempted is limited to the specific language and structure of the CARB regulation.³⁹ The CARB regulation prohibits the operation of marine engines that "emit levels of diesel PM, NO_x, or SO_x in exceedance of the emissions rates of those pollutants that would result" had the engine used certain low-sulfur fuels, but allows ship operators the flexibility to use various methods to achieve this emission level. (CARB even titles the relevant section of the regulation "Emission Limits.") The court found that this is an "emissions standard" and not an "in-use requirement" because it sets a specific, quantifiable emissions limit for given pollutants, and low-sulfur fuel use is merely one possible means of compliance. The 9th Circuit specifically states that the CARB regulation is not an "in-use fuel requirement because no particular fuel is required to be used at all." Thus the 9th Circuit decision does not hold that in-use fuel requirements are prohibited – in fact it explicitly recognizes a State's right to impose in-use requirements on nonroad vehicles.

Thus, as Hawaii's legislation provides only that cruise ships use a particular fuel with a sulfur content of not more than 5,000 ppm while docked in Nawiliwili harbor, and does not assert emissions limits or standards, it is an in-use requirement and should not fall foul of Clean Air Act preemption.

Respectfully submitted,

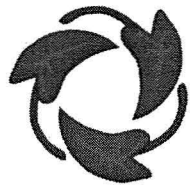


John Kaltenstein
Marine Campaign Program Manager
Friends of the Earth

³⁷ CARB Auxiliary Rule Staff Report - Appendix J, at J-5, available at <http://www.arb.ca.gov/regact/marine2005/appj.pdf>.

³⁸ CARB Auxiliary Rule Staff Report, at ES-15-16.

³⁹ See *Pacific Merchant Shipping v. Goldstene*, No. 07-16695 (9th Cir.).



Mālama Kaua'i
M A L A M A K A U A I . O R G

RE: SB 2526 - RELATING TO AIR POLLUTION CONTROL

House Transportation Committee

From: Malama Kaua'i

DATE: Wednesday, March 19, 2008

TIME: 10:00 a.m.

PLACE: Conference Room 309
State Capitol, 415 South Beretania Street

Testimony to support SB2526

Dear Honorable House Members,

I am writing to state Malama Kaua'i's support for Senate Bill 2526. Malama Kaua'i is a Kilauea based non-profit working to raise awareness on the importance of sustainability, to assist in implementing sustainable practices and support sustainable projects beneficial to the community.

Community and individual health is foundational to sustainability. The reasonable request for cruise ships to switch to cleaner-burning fuels while at port in Nawiliwili harbor will greatly affect air quality in the area. Niumalu residents are suffering from respiratory health problems related to the burning of bunker fuel by the cruise ship industry. Although cleaner-burning fuels may be slightly more expensive upfront, the resulting health care expenses and possible litigation will prove much more costly in the long-run. Beyond cost, it is a basic human right to live in a clean environment, especially when there are easy and obvious solutions for maintaining a clean environment. We have a choice to make a small economic investment today in order to insure a healthy community tomorrow. What would you do if it were your own 'ohana and community?

With respect,

Andrea Brower
Malama Kaua'i
808-635-1659



OFFICE OF HAWAIIAN AFFAIRS

Legislative Testimony

SB 2526, SD1, RELATING TO CRUISE SHIPS

House Committee on Transportation

March 19, 2008

10:00 a.m.

Room: 309

The Office of Hawaiian Affairs **SUPPORTS, with amendments,** S.B. 2526, S.D.1, which establishes a program that will determine the current level and health and environmental impact of air pollution caused by bunker fuel-burning cruise vessels docked or moored in Nāwiliwili harbor, and the effect of requiring cruise ships to switch to .5 percent or lower sulfur fuels while docked or moored.

OHA sees that the first part of the bill poses findings that bunker fuel causes various adverse health effects, including cancer and premature death, and then links these effects to the communities surrounding Nāwiliwili Harbor on the island of Kauaʻi, including the Niumalu community because they are particularly at risk from the burning of bunker fuel.

What surprises OHA is that, after making these powerful and definitive findings, this draft of the bill then proposes to merely study these ill effects for an entire year. After an entire year has passed, then the explorative action of requiring cruise ships to use .5 per cent or lower sulfur fuels while docked or moored in Nāwiliwili Harbor will then be taken, and the possible beneficial effects will be studied for two more years.

There are people that are being affected by this problem. This bill acknowledges the severity and even lethality of this issue. OHA would rather see action taken that addresses this public health concern in a more immediate way than this version of the bill proposes. Therefore, OHA supports the intent of the bill in that it seeks to address the burning of bunker fuel and prevent its known effects from harming our beneficiaries. However, OHA feels that the previous version of the bill achieved a more functional and effective result by preventing the burning of bunker fuels while in port.

This is especially relevant due to the findings made in this bill regarding bunker fuel; we already know that it is dangerous and that our communities are at risk. Preventative measures and action are needed, not more studies or information.

Therefore, OHA requests that S.B. 2526, S.D. 1, be amended back to its original form. OHA urges the Committee to PASS S.B. 2526, S.D. 1, taking our above-mentioned request into account. Thank you for the opportunity to testify.



**NORTH WEST
CRUISESHIP
ASSOCIATION**

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March 19, 2008

TESTIMONY TO THE
HOUSE COMMITTEE ON TRANSPORTATION
ON SB 2526 SD 1

Aloha Chair Souki, Vice-Chair Nishimoto, and members of the House Committee on Transportation.

I am Patrick Shaw, appearing on behalf of John Hansen, the President of the North West CruiseShip Association (NWCA). NWCA is a trade association of nine major cruise lines operating in Hawaii, the Pacific Northwest, Canada and Alaska. Our member lines include the following companies: Carnival Cruise Lines, Celebrity Cruises, Crystal Cruises, Holland America Line, Norwegian Cruise Line, Princess Cruises, Regent Seven Seas Cruises, Royal Caribbean International, and Silversea Cruises.

Thank you for this opportunity to appear before your committee in regards to SB 2526 SD 1.

The North West CruiseShip Association would like to offer the following comments:

The US 9th Circuit Court of Appeals ruled on Wednesday, 2/27/08, that California's Marine Vessel Rules regulating air emissions from marine vessels operating within 24 miles of the coast of California are pre-empted by federal law, specifically the Clean Air Act. The Court, whose jurisdiction includes Hawaii, ruled that the State of California must seek specific authorization from the EPA in order to promulgate and enforce the Rules.

Based on this ruling, it is the opinion of the member lines of NWCA that any regulations requiring the use of .5% or lower sulphur fuels while docked or moored in any State harbor – be it for a fuel pilot or otherwise - may also be pre-empted by the Clean Air Act.

The issue of low sulphur fuels is being discussed in earnest at the national and international levels by Congress, the EPA, and the IMO. Instead of passing a bill that may be pre-empted by federal law, the state may be better served by waiting on clarification from those bodies while simultaneously conducting further testing and monitoring.

If the decision is made to proceed with legislation, the cruise industry believes provisions should be made to allow for alternative technologies that achieve equivalent emission reductions without having to switch to lower sulphur content fuel.

Thank you again for this opportunity to offer comments on SB 2526 SD 1.

Patrick Shaw
NWCA Hawaii

NWCA Members Lines:

Carnival Cruise Lines ♦ Celebrity Cruises ♦ Crystal Cruises ♦ Holland America Line-Westours ♦ Norwegian Cruise Line ♦
Princess Cruises ♦ Regent Seven Seas Cruises ♦ Royal Caribbean International

To: Committee on Transportation
Date: March 19, 2008
Time: 10:00 am
Place: Conference Room 309
415 South Beretania Street, State Capitol

Testimony of Robin Murayama and Lisa C. Otoman-Murayama to Support SB
2526 Air Pollution
Residents of Niumalu, Kauai

Studies have shown that communities located close to harbors have higher cases of upper respiratory health problems, cancer and premature deaths when exposed to emissions from cruise ship bunker fuel. Our health and most importantly, our two year old daughter's health is of great concern. We are optimistic that within a year the cruise industry will convert their bunker fuel to 0.5 percent or lower sulfur fuel while docked or moored in Nawiliwili Harbor.

We have experienced symptoms of burning eyes, headache and itchy throat, when exposed to smokestack emissions from the cruise ship. Prior to a ship arriving into Nawiliwili, we resort to "shelter in place" by closing all our windows in our home and turning on our air conditioners/ceiling fans. We have also discontinued much of our outdoor activities when a ship is docked/hotelling in Nawiliwili Harbor. Our livelihood and enjoyment of our home and property has been greatly affected by the cruise ship industry. Our "clean air" day is when we know a ship has left the harbor or when a ship is not scheduled to be on Kauai. On these limited "clean air" days we can open all our windows at home and take advantage of breathing clean air and also spend time outdoors because we know there is no ship/s in port polluting our air.

Thank You for allowing us to testify.

TRN Testimony
SB2526
House Conference Room 309
Hawaii State Capitol
4155 Beretania St
Honolulu, Hawaii

Re: In testimony in Favor of SB2526.

Honorable members of the House TRN Committee,

My name is Michael Austin and I am writing in favor of SB2526 which will control air pollution by mandating the cruise ship industry to burn diesel oil while in port. As a resident of Niumalu on the island of Kauai my family and neighbors have been subjected to periodic discharges of bunker fuel emission as the cruise ships dock. These emissions can and must be reduced by the simple act of burning diesel oil instead of the highly contaminated bunker fuel now being used.

This truly is a win-win situation both for the cruise ship industry and the residents of the island of Kauai. By burning diesel, the cruise ship industry can point to greater environmental awareness and concern for Hawaii's ecosystem. While residents will be free to breathe less toxic fuel emissions such as Nitrous Oxides (NOx) and Sulphur dioxides (SOx).

NCL has posted figures that show the extra cost of burning diesel in port would = \$1.2 million dollars. In the PBN of late February/early March there's an article on NCL (Front page). On page 43 it stated that last yr 400,000 people traveled on NCL (and a total of 501,000 actually boarded all cruise ships in Hawaiian waters).

Now numbers being relative to the situation (and maybe they're not since I'm not sure what NCL penciled out in terms of 2008 capacity). But for the sake of argument let's say \$1.2 million dollars extra that covers 400,000 passengers. This works out to \$3/passenger. If they penciled out for the 1 existing ship then that would be say 125,000 passengers and that would be \$10 per passenger.

Anyway it's analyzed; this is not an extravagant addition to the total cruise bill. The environment is a leading topic in the US and Hawaii. Most tourists wouldn't give the \$10 surcharge a second glance, and the ones that do would be more than happy to oblige.

Please log me down in favor of SB2526

Michael Austin, PhD
Niumalu

nishimoto2-Bryce

From: walter and/or Sandra Toerge [toerge@yahoo.com]
Sent: Monday, March 17, 2008 9:34 AM
To: TRNtestimony
Cc: Gary Craft
Subject: testimony in favor of bill 2526

**RE: SB 2526 - RELATING TO AIR POLLUTION CONTROL
Testimony to support SB2526**

My name is Walter Toerge and I live in Niumalu, Kauai. This is written testimony in favor of your passing Bill 2526 to protect us, the residents of Niumalu. We have been appealing to our own Department of Health, our own Department of Transportation, and to NCL itself to look at the situation in our community. Niumalu and the Huleia Stream valley are predominately DIRECTLY downwind from the ships' berthing area. The Cruise Ships generate adequate electrical power to satisfy their guests' needs while in the Port of Nawiliwili by burning the very dirtiest, cheapest type of allowable fuel. It is something like half of all the electrical energy generated on our island is needed by each ship while in port. That ships power while in port is generated by the ships burning the equivalent of asphalt fuel. The smoke, particulates, fumes and others fill our air and are foul enough to cause us to go into our houses if we are outside and to close up our houses if we are inside, or to go away till things change. We've got soot like films on all horizontal surfaces. Some neighbors have been to physicians for respiratory problems, some are sealing and airconditioning their homes, some are relocating , and all of us have the same dirt/soot problems.

Most of the neighborhood has lived here longer than the Cruise Ships have been "Overnighting" and it was the Overnighting that finally brought the ship exhaust to everyone's attention. Niumalu is a working class community and most of us must have been working during the days. The neighbors started talking to each other and we all had a similar set of problems. We spoke to our Department of Health person and asked for help at a community meeting. We then spoke with representatives of NCL who conducted their own "study" on the air quality in Niumalu. NCL held a meeting for us on one of their ships hosted by the Department of Health, NCL Staff and a Conflict Resolution expert from the East West Center. The results of the NCL test were that everything was in normal limits for expulsion in a 24 hour period. Our Department of Health representative said that his testing wasn't really the right test, but since the test he did did not show bad results, he was concluding that the air quality is ok. End of meeting...it's not a problem.

The neighborhood kept calling the Department of Health with the same complaints. The Department did some more non conclusive tests. Apparently the Department of Health doesn't have the right tests to measure the type and patterns of the smoke plumes from the ships. There are many rules that have been established to measure noxious output, but all of the tests average over a long period of time. It seems as if our own Department of Health cannot, or will not help us find a resolution to the problem that still exists. To NCL, profit seems to prevail over the health of Hawaii's residents. Please pass this legislation.

Walter Toerge
2353 Niumalu Road
Lihue, Hawaii 96766

Be a better friend, newshound, and know-it-all with Yahoo! Mobile. Try it now.

nishimoto2-Bryce

From: Paul_Zina/KAUAIH/HIDOE@notes.k12.hi.us
Sent: Friday, March 14, 2008 4:27 PM
To: TRNtestimony; testimony
Cc: Sen. Gary Hooser
Subject: Testimony in favor of Senate Bill 2526 and/or HB 2919 - RELATING TO AIR POLLUTION CONTROL
Importance: High

NOTICE OF HEARING

Transportation Committee

Wednesday, March 19, 2008
10 a.m.
Conference Room 309
State Capitol
415 South Beretania Street

Testimony in favor of Senate Bill 2526 and/or HB 2919 - RELATING TO AIR POLLUTION CONTROL

Respected Transportation Committee Members,

I would like to speak in favor of limiting/controlling the harmful emissions from large cruise ships while near shore or in port. As a vice principal of a school whose location is in close proximity to a state harbor, I have on numerous occasions experienced first hand the physically unsettling effects of breathing cruise ship exhaust (sometimes referred to as "bunker smoke"). I have also received reports from the teachers and students at my school of dizziness and nausea associated with breathing fumes carried to the school from a cruise ship that was in port very near to the school. I am not a social opponent of the cruise ship industry nor do I oppose the economic benefit that the cruise ship industry brings to our community. But that benefit can not be at the expense of our health and safety.

Educating our children and keeping them safe is difficult enough when the whole system is working smoothly. The process becomes considerably more challenging when environmental conditions become unsafe for school employees as well as the children. It would be irresponsible of me not to speak up on this issue on behalf of my school. Please do your part to insure the safety of our children and those who serve them. Pass this law in a form that insures the air we breathe will support our health and well being.

Paul Zina
Vice Principal
Kauai High School
3577 Lala Road
Lihue, HI. 96766
Office: (808)274-3173 ext.105
Fax: (808)274-3160

3/18/2008

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nishimoto2-Bryce

From: NYC by Sharon [info@nawiliwiliyachtclub.org]
Sent: Sunday, March 16, 2008 1:05 PM
To: TRNtestimony
Subject: SB 2526 - RELATING TO AIR POLLUTION CONTROL

----- Original Message -----

From: NYC by Sharon
To: TRNtestimony@Capitol.hawaii.gov
Cc: reptokioka@capitol.hawaii.gov ; senmenor@Capitol.hawaii.gov ; senkokubun@Capitol.hawaii.gov ; senhooser@Capitol.hawaii.gov ; sentrimble@Capitol.hawaii.gov ; senfukunaga@Capitol.hawaii.gov ; senbaker@Capitol.hawaii.gov ; senwhalen@Capitol.hawaii.gov ; senige@Capitol.hawaii.gov ; repmorita@capitol.hawaii.gov
Sent: Monday, February 25, 2008 3:36 PM
Subject: SB 2526 - RELATING TO AIR POLLUTION CONTROL

RE: SB 2526 - Relating to Air Pollution
TO: House Transportation Committee

From: Sharon Gibson
Nawiliwili Yacht Club Lifetime Member
30-year Kauai resident

Testimony in support of SB 2526

DATE: Wednesday, March 19, 2008
TIME: 10 a.m.
PLACE: Conference Room 309
State Capitol
415 South Beretania Street

Aloha and mahalo for your time and careful consideration of the important bill before you. Thank you for allowing me to testify.

I strongly support SB 2526 and urge you to understand how detrimental the burning of bunker fuel by cruise ships docked at Nawiliwili is to everyone who has the misfortune of residing downwind from their emissions. I do not live in Niumalu but I have a boat in the Nawiliwili Small Boat Harbor and am a member of the Nawiliwili Yacht Club which has a clubhouse located at the boat harbor. We do not breath the fumes of the bunker fuel emissions 24/7 like the residents of Niumalu, but we suffer the consequences of the filthy black soot that is generated by these emissions.

Our NYC clubhouse is a second story open pavilion, built to enjoy the lovely views of the boat harbor. We have no walls, only roll-up shades on the windward and leeward sides to provide protection from wind and rain. We meet weekly at the clubhouse to enjoy a party that follows our evening buoy races. Our clubhouse is always FILTHY when we arrive to prepare for the weekly party. Every surface is covered with black soot. This is not dust. This is not red dirt. This is dirty, fine, black SOOT. Soot that requires rags and buckets and buckets of water to clean off. It's truly disgusting. You cannot touch anything that hasn't been just wiped clean without having dirty black hands.

3/18/2008

I live in an area on the South Shore that is undergoing heavy development. The developers here recognize that their construction projects cause dirt (the red dirt kind) that affects the households downwind from their work sites. They acknowledge their responsibility for this disruption to the neighborhood and provide cleaning services to those affected. It's just a fact of doing business. The cruise ships that dock at Nawiliwili should have the decency to acknowledge THEIR responsibility for the disruptions they are imposing on those they are affecting, and do whatever they can to eliminate the problem or compensate those who are affected by their actions. It's the cost of doing business and they should accept that responsibility.

Please consider the very severe consequences that are the result of these floating cities burning dirty bunker fuel and pass this bill to cause them to be regulated. It's just the right thing to do.

Thank you for considering my testimony.

Sharon Gibson
Nawiliwili Yacht Club Lifetime Member
5180 Hoona Road
Koloa, Kauai, HI 96756

nishimoto2-Bryce

From: Sam Morningstar [fixitsam@hawaii.rr.com]
Sent: Sunday, March 16, 2008 11:24 AM
To: TRNtestimony
Subject: Testimon2.doc

TRNtestimony@capitol.hawaii.gov.

RE: SB2526– AIR POLLUTION; BUNKER FUEL; NAWILIWILI HARBOR; CRUISE SHIPS.

Committee on Transportation

From: **SAM MORNINGSTAR** – Niumalu Resident

Testimony to Support This Bill, SB2526

Date: Wednesday, March 19, 2008

Time 10 a.m.

Place: Conference Room 309

State Capitol, 415 South Beretania Street

Introduction

Thank you for the opportunity to submit testimony in support of HB2919 – Relating to air Pollution control.

The Emissions Problem

I have lived in the Niumalu community for almost six years. I knew the harbor was there and that the trade winds blew from the direction of the harbor and up the valley. My bed room window is on the north east side of the house letting the wonderful breeze blow in. It keeps the whole house cooler as it blows through, from NE to SW. We started noticing, when the Cruise Ships came into the harbor and the trade winds were blowing, we could smell the exhaust of the ships and our eyes would start to itch, throat would get sore and our sinuses would plug up. It didn't matter what ship it was. When the NCL ships started to stay in the harbor overnight, was when the biggest impact affected me. The harbor has no activity going on at night, the tugs aren't running, the forklifts aren't running, the only thing running is the generator on the ship. When the trade winds were up I would have to close the windows and door in the house to help block out the flue gases from coming in. It was better to have the stale air in the house than the fumes from the ship. When the ships aren't in port we have none of the symptoms from the irritants.

I believe if it was only the smell, I would be able to live with that. It is the headaches, soar throats, swollen itchy eyes and stuffed up head with a runny nose that lets me know there is a problem. I go off to work and drive up out of the valley to see that the plume of smoke from the ship, that is in the harbor, is going toward my house. The plume goes out of the ship up a short distance and then starts to drop down into the valley and onto the homes of Niumalu. I don't believe that anyone that sees that can say that it isn't from the ship when they drive back down into Niumalu and can smell it. The other physical evidence of soot on the windows and screens of the house, the coating of soot on the cars and plants in the yard, are also evidence that we are breathing this and it is getting on our skin and bad for us. There are many of the residents in Niumalu that have been having health problems and have been reporting and filing complaints to D.O.H. since 2002. At this time there are many reports coming out all over the world that show these flue gas emissions from the bunker fuel, of the grade they use here is causing

health problems and death in many cases. The other testimony that you have received from our community has gone into greater detail on those reports, that have shown health problems and laws that are being passed in other areas. They all are designed to protect the health of the people not the bottom line of the cruise ship industry.

I am a pipe fitter by trade and have worked in many refineries, if the demand is there for the production of a cleaner fuel, the .01% to .5 %, they will gear up for it and supply it for the industry.

The solution

We are asking for the ships to start burning a higher grade of fuel, while entering, sitting in and leaving the harbor. At this time they are burning bunker fuel which is the lowest grade of fuel there is and the cheapest. To help them out we aren't saying change from the 2.5 fuel they use now, all the time. We just want them to use the higher grade of fuel that is rated at .1% to .5% which would make a major reduction in the pollution that is dumped on our community. Changing the fuel being used 5 miles out so they aren't polluting the air isn't too much to ask. They have to change the fuel 25 miles out along the California coast and have had no problems doing that, so it shouldn't be a problem here. At least they have a tug boat that is sitting in the harbor waiting for them to enter. If they should have a problem, which they haven't up to now from switching fuel, the tug boat is there to assist.

Conclusion

I would like to point out that the D.O.H. and all parts of the government should be taking care of the people's health first before they take care of the bottom line of the Cruise Ship Industry. I know that the refinery is producing the fuel rated at .5% at this time. We would hope that the ships will change as soon as possible on their own and not have to be mandated to comply.

I know that we live in the only harbor in the Island that has such a direct impact of the pollution from the cruise ships but this should not be ignored, we are still residents of Hawaii where the air is supposed to be the cleanest in the nation.

Mahalo Sam Morningstar

TRNtestimony@Capitol.hawaii.gov
House Transportation Committee

DATE: Wednesday, March 19, 2008
TIME: 10 a.m.
PLACE: Conference Room 309
State Capitol
415 South Beretania Street

INTRODUCTION

Thank you for the opportunity to submit testimony in support of SB 2526 - RELATING TO AIR POLLUTION CONTROL.

THE PROBLEM

Residents of the Niumalu community have been filing complaints with the D.O.H. since before 2000, when the American Hawaii Cruise Line was operating in Nawiliwili on day trips. The substantial increase in complaints from Niumalu residents over the past few years is reflective of the increase in number and size of the visiting ships and particularly the practice of overnight stays by NCL since 2004. The only time the air pollution complaints are registered is when the ships are in port. I am a teacher at Kauai High School and have had several bad periods of ship emissions incidents during *Kona* (Southeast) winds at Kauai High School actually interfering with proper classroom activities. I have reported 5 of those incidents to D.O.H. and school administration and sent two students to the health room with headaches.

The enormous engines that power large vessels burn residual fuel oil or "bunker fuel".¹ Bunker fuel contains far higher pollutant levels than other fuels, including higher levels of particulate matter, ash, sulfur, and nitrogen, as well as more heavy metals and other toxic substances such as aldehydes, benzene, and polycyclic aromatic hydrocarbons ("PAHs").² Bunker fuel, the bottom of the barrel in the refining process, has the consistency of mud and must be heated so that it can flow through engine fuel lines.

Bunker fuel causes a wide array of harmful human health impacts. For instance, combustion of this fuel in a diesel engine produces fine particulate matter that leads to increased cancer risk and adverse health effects such as respiratory illness, impaired lung and heart function, and premature mortality. The negative health impacts of bunker fuel are magnified because large vessel emissions are concentrated in port areas where ships transit and dock, disproportionately impacting disadvantaged communities and communities of color,³ while also impacting coastal cities and towns along busy shipping corridors.⁴

¹ In 2007, 84 percent of fuel consumed by vessels above 400 gross tons was bunker fuel. *IMO panel gives new bunker consumption estimate*, SUSTAINABLESHIPPING.COM, Jan. 30, 2008, available at <http://www.sustainableshipping.com/news/2008/01/70558?gsid=f1f40e4c818411cfb42c353fad22bac1&asi=1>

² US EPA (2002), *Health Assessment Document for Diesel Engine Exhaust*, U.S. EPA, Office of Research and Development, National Center for Environmental Assessment, Washington Office, Washington D.C., EPA/600/8-90/057F (2002), at 1-1, available at <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=29060>.

³ While the impacts from marine diesel emissions can affect all people, those most likely to live and work near pollution sources such as ports and their transportation corridors also confront the challenges of poverty, limited access to medical care, low rates of insurance coverage, and virtual exclusion from the public policy decisions that most affect them. Environmental justice communities often suffer from disproportionately high cancer, disease, and mortality rates as they are exposed to the highest levels of carcinogenic, toxic, and hazardous chemicals. Friends of the Earth International, "Air Pollution from Shipping Emissions – Environmental Justice: Public Health and Community Impacts," submitted to the IMO's Marine Environment Protection Committee, May 12, 2005 ("FOEI Environmental Justice Report").

⁴ The Santa Barbara Air Quality Management District has determined that, if Category 3 marine engines are not regulated, by 2020 marine vessel pollution will constitute 75 percent of the District's nitrogen oxide inventory and may cause the District to be classified as in nonattainment for the federal ozone standard. Complaint for Declaratory and Injunctive Relief, Santa Barbara County Air Pollution Control District, U.S. District Court for the District of Columbia, Filed Dec. 26, 2007, at 4.

Today, shipping accounts for about a quarter of the world's nitrogen oxide emissions, which causes smog,⁵ and shipping emissions are growing significantly (at a rate of 4.1 percent per year through 2040)⁶ as marine transportation increases.⁷ Smog causes harmful respiratory effects including shortness of breath, coughing, decreased lung function, inflammation of the lung tissue, aggravation of existing respiratory diseases, and may impair the body's immune system.⁸ Children and the elderly are most severely affected by these health effects. Exposure to smog leads to increased hospital admissions and emergency room visits and increases the use of medications.⁹

Ozone and PM_{2.5} emitted by large ocean-going vessels can also have severe public welfare effects. Exposure to fine particles can lead to aggravation of the respiratory system, cardiovascular disease, increased asthma, difficulty breathing, chronic bronchitis, and premature death.¹⁰ Particulate matter also causes soiling and erosion damage to materials, including culturally important objects, increases the corrosion of metals, degrades paints, and deteriorates building materials.¹¹ Emissions from large marine diesel engines also harm the environment by impairing visibility, contributing to haze, acid rain, eutrophication, and nitrophication, and reducing crop yields and productivity of forest ecosystems.¹²

Globally, the scope of the problem from ship air pollution is staggering. In 2002, marine vessel emissions resulted in 60,000 premature deaths, primarily due to the use of high sulfur bunker fuel.¹³ This peer-reviewed, published scientific study, supported in part by Clean Air Task Force, estimated that without new regulations, premature deaths from shipping-related emissions will increase by 2012, along with the projected growth in shipping traffic.

Proactive action can change this outcome, however. A new study has found that if shippers switch to marine distillate with a sulfur standard of 1,000 ppm within 200 miles of the world's coastlines, premature mortality could be cut in half, to 42,200 per year.¹⁴

For these reasons, it is critical that you pass SB2526.

THE SOLUTION

One of the primary methods of complying with SB2526 would be switching from bunker fuel to cleaner marine distillate fuel. This is a highly cost-effective, technically feasible way of lessening health impacts without causing economic harm to the shipping sector. The benefits in switching to cleaner fuel, when one

⁵ A reaction of NOx and volatile organic compounds in the presence of heat and sunlight forms ground-level ozone, or smog.

⁶ Friends of the Earth International, "New Global and Regional Inventories of Air Pollution from International Shipping," submitted to the IMO subcommittee on Bulk Liquids and Gases, Jan. 12, 2007, BLG 11/5/5, BLG 11/INF.3.

⁷ Corbett, J.J., and Koehler, H. 2003. Updated Emissions from Ocean Shipping. *Journal of Geophysical Research*, Vol. 108 (as cited in the United States' proposal entitled "Development of Standards for NOx, PM, and SOx" submitted to the International Maritime Organization subcommittee on Bulk Liquids and Gases, Feb. 9, 2007) ("U.S. NOx, PM, and SOx Standards Proposal").

⁸ 68 Fed. Reg. 9751 (February 28, 2003).

⁹ *Id.*

¹⁰ *Id.*, at 9752 (February 28, 2003).

¹¹ *Id.*

¹² 72 Fed. Reg. 69534-69536 (December 7, 2007).

¹³ Corbett et al., "Mortality from Ship Emissions: A Global Assessment," *Environmental Sci. Technol.*, American Chemical Society, 42(24), p. 8512-8518, Dec. 15, 2007.

¹⁴ Corbett et al., "Mitigating Health Impacts of Ship Pollution through Low Sulfur Fuel Options: Initial Comparison of Scenarios," Jan. 23, 2008, annex to Friends of the Earth International, "Avoided Global Premature Mortality Resulting from Reduction of Sulphur in Marine Fuel," submitted to the IMO's Marine Environment Protection Committee, Jan. 25, 2008. Almost 70 percent of global shipping emissions occur within 250 miles of shore, where a majority of the world's population lives. Corbett, J.J., P. Fischbeck, and S. Pandis, (1999), "Global nitrogen and sulphur inventories for oceangoing ships," *Journal of Geophysical Research*, Vol. 104, No. D3 (Feb. 20, 1999), at 3465, 3469.

considers environmental and public health factors, far exceed the costs. Although low sulfur fuel can cost from 50-72 percent more than bunker fuel,¹⁵ the cleaner fuel standard of SB2526 applies only to cruise ships within 5 miles of Nawiliwili Harbor. The 2005 CARB auxiliary engine rule which requires all ships visiting ports in California to use low-sulfur distillate fuel in their auxiliary engines while at berth and within 24 nautical miles of the California coastline.¹⁶ The CA auxiliary engine rule standard can also be achieved by way of alternative emission control technology. See Cal. Admin. Code tit. 17, § 93118 (g). Vessel operators will only be required to use cleaner marine distillate for a small portion of their Hawaiian Islands trip.

The reductions in fuel sulfur content achieved by switching from bunker fuel can dramatically reduce vessel emissions. The California Air Resources Board (CARB) expects that moving from bunker fuel (approximately 25,000 ppm sulfur content) to 1,000 ppm marine gas oil will reduce PM, SO_x, and NO_x by 83 percent, 96 percent, and 6 percent, respectively.¹⁷ Similarly, recent modeling of a container ship switch using 22,900 ppm bunker fuel (the average U.S. west coast sulfur content level) to 1,000 ppm marine gas oil found that PM, SO_x, and NO_x would decrease by 78 percent, 94 percent, and 6 percent, respectively.¹⁸ Finally, the U.S. proposal to the IMO, which would include coastal use of 1,000 ppm distillate, is estimated to reduce PM by 65 percent and SO₂ by 78 percent by 2020.¹⁹

The attendant health benefits of using marine distillate in lieu of bunker fuel are immense. The Clean Air Task Force study indicates that societal benefits of approximately \$225 billion per year will be realized from globally instituting a 1,000 ppm coastline standard, with annual mortalities reduced by approximately 40,000 [Corbett and Winebrake, 2008].²⁰

EUROPEAN UNION AND THE INTERNATIONAL MARITIME ORGANIZATION

Several governmental entities, including the United States, have called for the use of low sulfur distillate. Executive officials representing the U.S. at IMO negotiations, including the U.S. EPA and Coast Guard, have as a central feature of their proposal a 1,000 ppm U.S. sulfur coastal zone.²¹ In addition, the European Union (E.U.) has a marine gas oil limit of 2,000 ppm for vessels in port and, by January 2010, will reduce the fuel standard to 1,000 ppm²² for inland vessels and ocean-going vessels at berth in its ports.²³ As discussed above, CARB also has set its auxiliary engine fuel limit at 1,000 ppm by January 2010. CARB believes that “[by] harmonizing with the 2010 EU requirements for low sulfur marine

¹⁵ Note by Secretary-General, “Report on the outcome of the Informal Cross Government/Industry Scientific Group of Experts established to evaluate the effects of the different fuel options proposed under the revision of MARPOL Annex VI,” submitted to IMO subcommittee on Bulk Liquids and Gases, Dec. 20, 2007, at 17.

¹⁶ “The California auxiliary engine rule also allowed for reductions to be achieved by using alternative emission control technology. See Cal. Admin. Code tit. 17, § 93118 (g). On February 27, 2008, CARB’s rule was rejected by the 9th Circuit Court of Appeals. However, CARB will seek review of the decision by the entire 9th Circuit, will apply for U.S. EPA authorization to regulate vessel auxiliary engine emissions, and may even reform the regulation to provide for a fuel use requirement to be the sole method of compliance, thereby enabling the state to avoid federal pre-emption concerns. CARB, Ocean-Going Ship Main Engine Rule workshop discussion, March 5, 2008.”

¹⁷ Winebrake, J.J., and Corbett, J.J. Technical Memorandum – Total Fuel Cycle Analysis for Container Ships: A Comparison of Residual Oil, Marine Gas Oil and Marine Diesel Oil, prepared for Friends of the Earth, June 6, 2007, at 3-4.

¹⁸ *Id.*, at 6.

¹⁹ Note by Secretary-General, “Report on the outcome of the Informal Cross Government/Industry Scientific Group of Experts established to evaluate the effects of the different fuel options proposed under the revision of MARPOL Annex VI,” submitted to IMO subcommittee on Bulk Liquids and Gases, Dec. 20, 2007, at 35.

²⁰ Friends of the Earth International, “Avoided Global Premature Mortality Resulting from Reduction of Sulphur in Marine Fuel,” submitted to IMO committee on Marine Environment Protection, Jan. 25, 2008.

²¹ PM and SO_x standards in coastal zones would also be achievable through the use of seawater SO_x scrubbers. U.S. NO_x, PM, and SO_x Standards Proposal.

²² Several U.S. and foreign fuel producers have already begun production on grades of marine distillate with this level of sulfur. See e.g., *Polish player already offering 0.1% sulphur fuel*, SUSTAINABLESHIPPING.COM, Jan. 7, 2008, available at <http://www.sustainableshipping.com/news/2008/01/70274>.

²³ Directive 2005/33/EC of the European Parliament and of the Council, July 6, 2005.

distillates, the staff's proposal promotes international consistency and increases the availability of cleaner marine distillates at ports that refuel Pacific Rim vessels."²⁴ These developments indicate the recognized benefits and feasibility of switching to low sulfur distillate in the near term.

The IMO NOx standards currently in place simply codify emission levels that had already been achieved by industry, and its current fuel standard allows the extraordinarily high level of 45,000 ppm sulfur. Second, it is commonly understood that the IMO is currently considering adoption of new emission standards primarily due to the proliferation of legislative and regulatory actions and proposals at the national and sub-national levels. Without sufficient impetus, the international process could easily fracture and become bogged down, reverting back to a glacial pace. History suggests that U.S. action can precipitate strong international standards. For example, after Congress adopted the Oil Pollution Act of 1990 – requiring all new tankers operating in U.S. waters to be equipped with double hulls – the international community quickly adopted the same requirement.

While some may seek to defer and wait for a national and international consensus to develop around an uncertain level of pollution protection, we believe that the most effective way of resolving the health harms associated with dirty bunker fuels is for Hawaii State Legislators to act now and demonstrate leadership.

TECHNICAL FEASIBILITY

Previously, some in the shipping industry have raised concerns about the technical feasibility of switching from bunker fuel to marine distillate. Those concerns have been allayed. At least one major shipping company, Maersk, has demonstrated the feasibility of this switch. It voluntarily switched from bunker fuel to distillate fuel (2,000 ppm) for ships operating within 24 nautical miles of certain California ports.²⁵ In addition, since the early-1990s, USS-POSCO has been making fuel switches from heavy fuel oil to ultra-low (less than 500 ppm) sulfur distillate prior to entering the Bay Area AQMD boundary on the regular routes between South Korea and Pittsburg, California. Ultra-low sulfur distillate was used to facilitate the use of on-board selective catalytic reduction (SCR) systems to further minimize air pollution.²⁶ Furthermore, cruise ships within 24 nautical miles of the California coastline have had to use distillate fuel since January 1, 2007.²⁷ No significant incidents have been reported. U.S. EPA asserts, "properly designed ships would be able to operate on distillate fuel either under a fuel-switching strategy or for extended use."²⁸

CARB has also addressed several technical issues relating to the use of very low sulfur distillate. For example, in response to concerns from industry that low sulfur fuels with lower lubricity could cause damage to fuel pumps, CARB stated that those concerns were associated with landside diesel fuels having very low sulfur levels, lower than the proposed 1,000 ppm standard.²⁹ In addition, CARB summarized that concerns related to the low viscosity of distillate affecting pump leakage and engine performance could be resolved by minimum viscosity requirements or modifications such as the use of a fuel cooler, thereby lowering fuel temperature and increasing viscosity.³⁰ Moreover, the USS-POSCO's experience with using ultra low sulfur diesel for over a decade demonstrates the capacity to use fuel of this nature in large ocean-going vessels. In sum, actual experience and agency opinion demonstrate that marine distillate switching, when performed by competent professionals according to recommended procedures,³¹ is feasible.

CONCLUSION

²⁴ CARB Auxiliary Rule Staff Report, available at <http://www.arb.ca.gov/regact/marine2005/isor.pdf>.

²⁵ 72 Fed. Reg. 69525 (December 7, 2007).

²⁶ CARB Auxiliary Rule Staff Report, VI-12.

²⁷ CARB Auxiliary Rule Staff Report, ES-4.

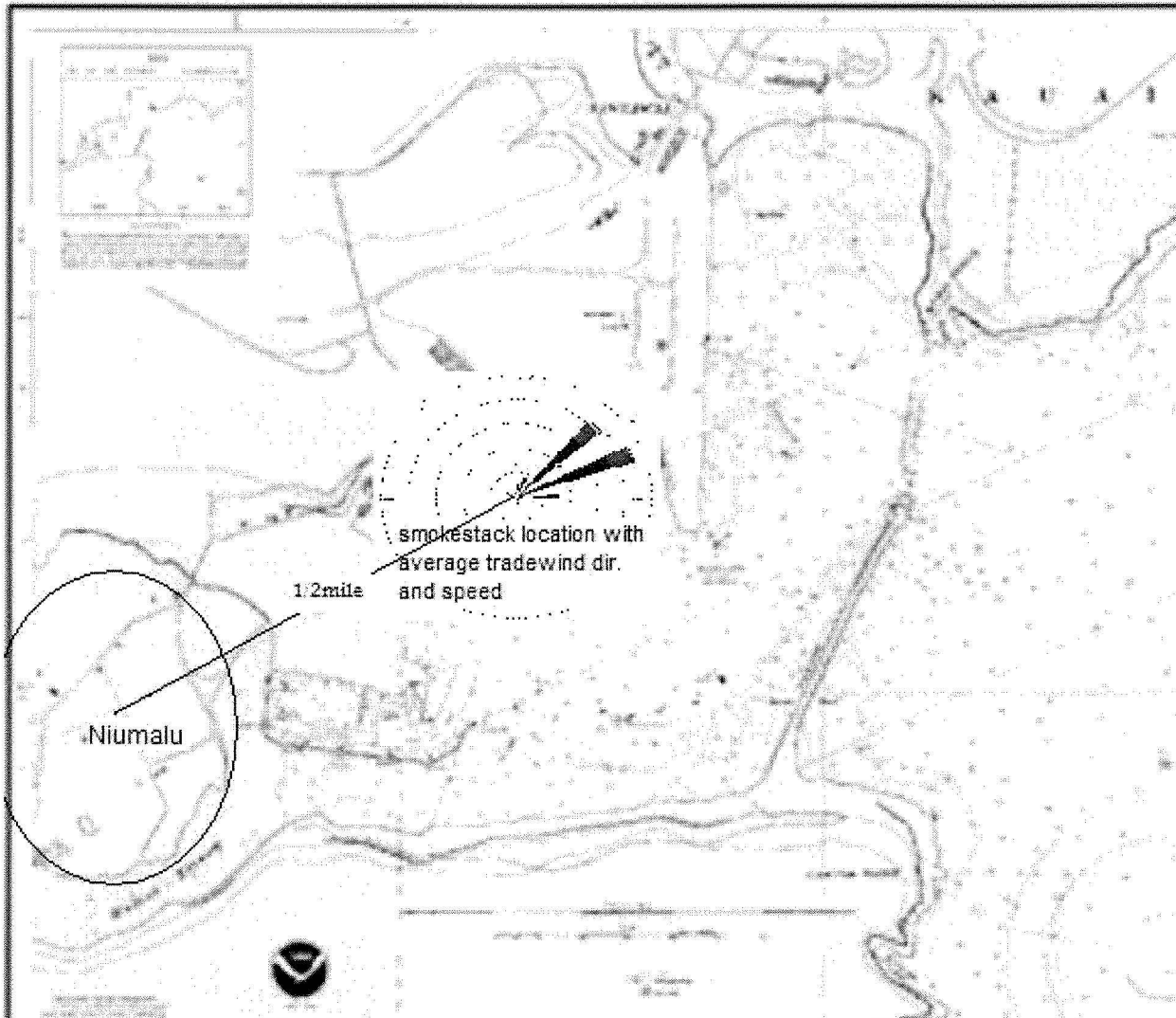
²⁸ 72 Fed. Reg. 69541 (December 7, 2007).

²⁹ CARB Auxiliary Rule Staff Report, VI-16.

³⁰ *Id.*

³¹ Engine manufacturers and marine equipment suppliers publish guidance for vessel operators that set forth recommended procedures. CARB Auxiliary Rule Staff Report, VI-13.

The SB2526 is urgently needed. A recent study indicates that by 2012 nearly 84,000 people could die prematurely from global vessel emissions. Other health and quality of life impacts on the Niumalu community are acute. I have never voiced opposition to the cruise lines; only the fuel they are burning while in Nawiliwili. Trade winds support our islands national air quality 'attainment' status but, ironically, they are responsible for the 'direct-hit' by the cruise ships' Bunker Fuel Emission plume through the Niumalu community. No other state harbors have the unique and unfortunate geographical orientation of a residential community $\frac{1}{4}$ - $\frac{1}{2}$ mile directly downwind:



Please protect our health by passing SB2526.
Mahalo, Gary Craft

TRNtestimony@Capitol.hawaii.gov

House Transportation Committee

DATE: Wednesday, March 19, 2008
TIME: 10 a.m.
PLACE: Conference Room 309
State Capitol
415 South Beretania Street

INTRODUCTION

Thank you for the opportunity to submit testimony in support of SB 2526 - RELATING TO AIR POLLUTION CONTROL.

The Emissions Problem

Residents of the Niualu community have been filing complaints with the D.O.H. since before 2000, when the American Hawaii Cruise Line was operating in Nawiliwili on day trips. The substantial increase in complaints from Niualu residents over the past few years is reflective of the increase in number and size of the visiting ships and particularly the practice of overnight stays by NCL since 2004. The only time the air pollution complaints are registered is when the ships are in port.

There are about 130 homes and one small hotel in Niualu. Estimating 3-4 persons per home, approximately 500 residents are being exposed to cruise ship emissions. I work in my home office and often have to 'seal-up' the house when the ship emissions plumes are blowing in our direction. I do not have the option during the week to leave and am subjected to the air pollutants. During these times I have had headaches and irritated eyes. When we experience the ship emissions on the weekend we have left our home. It's a sad statement to say that we start our days reviewing the wind direction to see if we will have a "good day" in our own home. It doesn't make us feel any better knowing that if it's not us, it will be one of our neighbors exposed to the pollutants.

We have been patiently dealing with NCL and the DOH for many years now and feel that the only way to protect our health is by legislation. We have worked with NCL and DOH in good faith assuming that they are as concerned about the community health and welfare as we are. On the contrary, we have been placated with promises of more testing from the DOH (none of which have been able to compare to federal standards). Based on previous testimony from NCL for SB 2526 & HB2919, they have shown that they care more about the bottom line than the health of the community. A switch to Diesel fuel would have been a responsible, sensitive, environmentally sound temporary decision, but because of the additional expense NCL chose profits over people's health.

We have never voiced opposition to the cruise lines; only the fuel they are burning while in Nawiliwili. Trade winds support our islands national air quality 'attainment' status but, ironically, they are responsible for the 'direct-hit' by the cruise ships' Bunker Fuel Emission plume through the Niualu community. No other state harbors have the unique and unfortunate geographical orientation of a residential community ¼ - ½ mile directly downwind. All we have sought for immediate relief is a switch to Diesel prior to entering our Harbor; an increasing worldwide trend.

The impacts as described above seriously affect numerous residences and their occupants and interfere with the reasonable enjoyment of life and property. This is defined in Hawaiian environmental rules as "**Air Pollution**":

*("Air pollution" means the presence in the outdoor air of substances in quantities and for durations which **may endanger human health or welfare, plant or animal life, or property or which may unreasonably interfere with the comfortable enjoyment of life and property throughout the State and in such areas of the State as are affected thereby, but excludes all aspects of employer-employee relationships as to health and safety.**)*
(HAR, DOH Chapter 11-60.1-1 Definitions)

The same regulations in Chapter 11-60.1-2, Prohibition of Air Pollution, place restrictions on causing air pollution:

(No person, including any public body, shall engage in any activity which causes air pollution or causes or allows the emission of any regulated or hazardous air pollutant without first securing approval in writing from the director.)

Niumalu residents believe that cruise ship operators have not been assessing air pollution implications of their activities prior to engaging in such activities and, consequently, have not implemented preventative and/or remedial actions. In addition to health and enjoyment of life issues, this will also lead to substantial losses of property values when disclosed prior to real estate transactions.

State Response to Complaints

Citizen complaints resulted in repeated efforts by the air pollution agency to perform air sampling by various methods and at various locations. Since the sampling was time averaged and the problem is sporadic and episodal, eighteen months of effort have not led to conclusive data.

Responding to a recent letter from another affected resident, Governor Lingle, has kept this issue "gray" using the following statement:

(Finally, the DOH can estimate the emissions from cruise ships and other sources. However, due to the varying meteorological conditions, different ships in port and the interaction between the emissions from different sources the most appropriate approach to identify and resolve the air pollution issue is with air quality monitoring.)

We respectfully disagree with this assessment since almost two years of the monitoring approach have had absolutely not led to the slightest abatement of our problem. Ambient air quality monitoring simply is not intended to be used to identify specific air quality problems from individual sources.

The "source" argument promulgated by the DOT and Governor Lingle is a preposterous "smokescreen" .

Donald Greer PH.D. has done an emission inventory using "**Current Methodologies and Best Practices for Preparing Port Emission Inventories**", Presentation by: Louis Browning, ICF International / Kathleen Bailey, U.S. EPA. May 17, 2006,

http://www.epa.gov/ttn/chief/conference/ei15/session1/browning_pres.pdf

This shows that cruise ship emissions provide thousands of times the pollutants of all other sources in the Nawiliwili Harbor area; which is the reason complaints only occur during cruise ship stays, and particularly over night when their electrical generation needs are high. The idea that there is no clear way to identify the source is ludicrous. When cruise ships are docked in our harbor, it's like having a power generation plant larger than Lihue's Kapaia station (27.5 Megawatt capacity) parked right upwind. The only difference is that cruise ships (40 Megawatts capacity) burn a much **less** refined Bunker Fuel instead of the much cleaner Naphtha Fuel used in our power plant. Breathing the toxic smoke from this type of fuel has been linked to increased asthma and cancer in addition to other major health problems see: <http://www.bluewaternet.org/> for more details. We do not have this issue when the ships are not in the Nawiliwili Harbor. In fact, we had a wonderful smoke free weekend recently when the ships were not in the harbor. It was great to relax in our home with all the windows open and get some fresh air.

Regarding testimony on the companion bill (HB 2191):

It was with utter disbelief that Alan Yamamoto would have the impropriety to record a statement correlating resident's health to increased operating expense: "*possibly adding thousands of dollars to each voyage and **impacting bottom line***" particularly to a legislative committee charged with protecting citizens from just this sort of abuse! Residents are being exposed to air pollution that has been correlated with severe illness and even deaths (see **Mortality from Ship Emissions: A Global Assessment**)

JAMES J. CORBETT, *, †JAMES J. WINEBRAKE, ‡ERIN H. GREEN, †PRASAD KASIBHATLA, †VERONIKA EYRING, □ANDAXEL LAUER □

College of Marine and Earth Studies, University of Delaware, 305 Robinson Hall, Newark, Delaware 19716,
Department of STS/Public Policy, Rochester Institute of Technology, 1356 Eastman, Rochester, New York

14623, Nicholas School of the Environment, Duke University, Box 90328, Durham, North Carolina 22708, and Deutches Centrum fuer Luft- undRaumfahrt (DLR) DLR-Institute fuer Physik der Atmosphaere, Oberpfaffenhofen, Wessling, Germany)

A few residents have already sought medical attention for upper respiratory distress. During trade wind periods the plume inundates the Niumalu community. On the Kona wind days it runs through the nearby Kauai High School; over 1400 students and staff are exposed to the noxious fumes/pollutants. This concept of collateral damage/acceptable losses is inconceivable! The large NCLA passenger base could absorb the loss by way of a small individual fuel surcharge – a small price to pay for a visit to the paradise that is Kauai; if not, Nawiliwili may not be compatible with “hoteling”/over-nighting of cruise ships. I have never advocated suspending cruise ship use of Nawiliwili. However, if berthing in Nawiliwili is not affordable due to increased fuel expenses, Port Allen should be considered, as the prevailing winds blow offshore there. Mr. Yamamoto has been contacted with information supporting the safety of fuel changes as documented by Terry Shore, the clean water campaign director with the California environmental group Bluewater Network in her article: “**Ship Fuel Switching is Routine and Doable**” from <http://blog.foe.org/portwatch/2007/08/index.html>. He has also been provided information from Tesoro regarding cleaner fuel availability (.05 sulfur diesel used by tugs and superferry). At a recent meeting in “field switching”, Maersk shipping gave a presentation very supportive of fuel switching (<http://www.arb.ca.gov/ports/marinevess/presentations/072407/072407maepres.pdf>).

We would not be here today if NCL and other cruise shipping lines would do the right thing: Like Maersk Shipping lines who has proactively switched to cleaner fuel in preparation of coming legislation and response to a worldwide trend of requiring cleaner fuels: *They reported that the switch has gone smoothly; between April 2006 and May 2007, 78 vessels conducted 298 fuel switches from bunker fuel to cleaner marine distillates in main engines at or before 24 nautical miles from coast.*

Also, Pasha Hawaii Transport Lines (the car carrier): *“is pleased to announce the completion of major retrofitting of the company flagship Jean Anne in response to new environmental regulations in California requiring the burning of low sulfur fuel within 24 miles of the coast and alongside. Marine diesel oil is a lighter and cleaner fuel, and will support the Jean Anne's propulsion system via two hundred meters of new piping. The retrofitting was accomplished with no downtime or impact to the vessel's sailing schedule between California and Hawaii”. Additional environmentally-friendly upgrades to the Jean Anne's engine include the installation of slide valves in each of the cylinders of the main engine, which will result in cleaner combustion and reduced emissions at all times - a benefit to Hawaii as the vessel travels between islands. The slide valves also contribute to the efficiency of the engine and lengthen the time between required servicing. “We are keenly aware of our responsibility to protect the environment,” said George Pasha, III, “and are pleased to be able to invest in environmentally friendly technology.”*

Regarding the DOH testimony about “sensitivity” to smells; professional environmental consultants and research have shown that symptoms such as headaches, upper respiratory congestion, chest pain, burning eyes and throat indicate serious health concerns. The Kauai DOH log includes these types of complaints from many individuals throughout our community over the past few years (copies of various complaints are available on request). When we smell the pollution we close up our houses before the associated symptoms occur.

In conclusion, local healthcare insurance is picking up the tab on residents medical visits (during my husband's recent Dr. visit, the MRI alone was almost \$2000) - always diagnosed as “Non-specific respiratory irritation”. Meanwhile, NCL sends the profits back to Florida (if not Norway). The other foreign cruise lines also send their profits home - out of the U.S. This isn't even a good “big-business” deal for us! Hopefully, passage of SB 2526 will help prevent the real likelihood of future litigation costing the state even more. Residents are convinced that if all concerned with the cruise ship Bunker Fuel emission air pollution problem could simply sit in our living rooms when the plume is obvious they would support any and all efforts to immediately prevent further damage to Niumalu resident's health.

Please protect our health by passing SB2526.
Mahalo, Iris Craft
2340 Hulemalu Road
Lihue, HI 96766

nishimoto2-Bryce

From: David H Dinner [gentlewave@hawaii.rr.com]
Sent: Tuesday, March 18, 2008 8:58 AM
To: TRNtestimony
Subject: Support SD 2526 SD1

TO: House Transportation Committee
DATE: Wednesday, March 19, 2008
TIME: 10:00 AM
PLACE: CONFERENCE ROOM 309

Please support bill SD 2526 SD1. Damage to our children and our citizens can not be undone while we "study further" the effects of this toxic fuel.

Aloha
DAVID H DINNER

nishimoto2-Bryce

From: Lorne Ogmundson [blorne@hawaii.rr.com]
Sent: Friday, March 14, 2008 11:49 AM
To: TRNtestimony
Subject: Fw: SB 2526

----- Original Message -----

From: Lorne Ogmundson
To: testimony@capitol.hawaii.gov
Cc: repcarroll@capitol.hawaii.gov ; repsagum@capitol.hawaii.gov ; repsaiki@capitol.hawaii.gov ; repkaramatsu@capitol.hawaii.gov ; repmagaoay@capitol.hawaii.gov ; repito@capitol.hawaii.gov ; rephielen@capitol.hawaii.gov ; Gary Craft ; senhooser@capitol.hawaii.gov
Sent: Wednesday, February 20, 2008 9:33 AM
Subject: SB 2526

RE: SB2526 - RELATING TO AIR POLLUTION CONTROL
Committee on Energy and Environment (ENE) and Committee on Health (HTH)

From: Lorne Ogmundson - Niumalu resident

Date: Thursday, Feb 21, 2008 @ 2:45 p.m.
Place: Conference room 414
State Capitol, 415 south Beretania Street

TESTIMONY TO SUPPORT SB2526

Cruise ships are significantly polluting the environment around Nawiliwili. We wash the back of our house, facing the harbor, every week. You can see the black soot running down the screens and our plants are stressed with a layer of "black, sticky substance" on the stems and leaves, which does not wash off.

It strikes me as strange that we have legislation to prevent individuals from smoking in public areas, yet we allow ships to freely discharge particulates that are many times more damaging to the health of the public.

The arguments that it would be too costly to burn clean fuel or that the fuel is not available on the islands are not valid. You can't place a price tag on the health of the residents and be assured, when a demand for the cleaner fuel exists, refineries will provide the product.

Over the past couple of years, the community has tried to work with NCL to resolve this problem. Unfortunately without success. This was not to single out NCL but they are the most frequent cruise line to visit Nawiliwili. The community needs protection from all ships that now visit or will in the future.

It is now time to mandate a solution. Do not allow profit motives to override common sense.

PLEASE PASS THIS BILL.

3/18/2008

nishimoto2-Bryce

From: Judy Ta'afuli [judithw@hawaii.edu]
Sent: Friday, March 14, 2008 9:36 AM
To: TRNtestimony
Subject: Testimony

To all:
SUPPORT SB2526

Being a resident of Niumalu, I strongly urge you to support Gary Hooser's SB2526.

We are requesting that cruise lines burn cleaner fuel when in our harbor and this should be started as soon as possible. With NCL, Pride of America in the harbor last night I could not enjoy having dinner on my deck as the fumes were so thick with soot. The air was heavy and caused breathing to be difficult.

If we cant' move cruise lines to Port Allen, then first they should be forced to burn clean fuel, second limit the number of ships coming in to 1 a week. And why are they hoteling overnight & sit for 2 days? I thought they were on a CRUISE!

Judy Ta'afuli
2435 Waipuna Road
Niumalu, Kauai

RE: SB2526 - RELATING TO AIR POLLUTION CONTROL

House Committee On Transportation

From: Dr. Carl J. Berg, Jr., Environmental Scientist and Nawiliwili Bay Resident

Date: Wednesday, March 19, 2008

Time: 10 a.m.

Place: Conference Room 309

State Capitol

415 South Beretania Street

Testimony to support SB2526

Dear Representatives:

My name is Dr. Carl J. Berg, Jr. I am a resident of Nawiliwili Bay, adjacent to the Niumalu community. I am an environmental scientist with a Ph.D. from the University of Hawaii and have had a long professional career as an ecologist. I am a commissioner on the State's Legacy Land Conservation Commission. I am a former employee of the Hawaii Department of Health on Kauai and was trained in monitoring smoke stack emissions.

This bill will protect the health of our Niumalu community and the Kauai High School children. That is the bottom line. Do you put into legislation effective controls to air pollution from the shipping industry that will save lives, or do you look after the profits of mainland cruise ship companies who care little for the Hawaii.

Public health is at severe risk due to toxic waste spewing from the smoke stacks of cruise ships using Nawiliwili Harbor. The more ships, the more waste, the more severe health problems. It has long been intolerable. This is not about odor, it is about public health. The children in Kauai High School are getting gassed while in their classes. They cannot study but must go to the infirmary or go home sick. This must stop.

No new studies are needed to document either toxic effects of smoke stack emissions or its effects on public health, as this is well documented in the literature. You have this in the testimony of others. The only difference between cruise ship emissions and Hawaii power plant emissions is that the cruise ships use dirtier, more toxic fuel.

Previous tests of pollutant levels in Niimalu neighborhood were poorly designed and implemented due to constraints of DOH funds and staffing. The results are inconclusive at best, more like a waste of money. Because of the episodic nature of pollutant discharge and wind patterns, there are pulses of extreme pollution which are intolerable. Sampling must be done at the time and in the exact location of worse pollution. Unfortunately this most often occurs in the evening, when DOH staff are not working. But extensive sampling and testing is not needed. You can easily see the blue-grey discharge from the ships and how it drifts inland on to the Niimalu neighborhood (see figure 1). I have taken numerous photographs of this illegal discharge and submitted them to the DOH. You can also smell the pollution and see it settling out on your house, windows, and furniture. With two ships in the harbor at a time, the pollution levels are sickening, both to the Niimalu community and to the school children.

The cruise ships are just mobile electric generating facilities without appropriate air pollution controls. They need to use cleaner fuels and/or have scrubbers on their smoke stacks. Even our electric generating plant in Port Allen uses cleaner fuel. We do not need studies, the major polluter in Nawiliwili is the cruise ships, and nothing else comes remotely close in the volume and toxicity of discharge.

The DOH, in the testimony they submitted for HB2919, stated that "Limiting the fuel sulfur content to 1000 ppm or 0.1% will result in a significant reduction in sulfur dioxide emissions." This is essential. Any higher value means more health problems. The .5% level being proposed compromises public health.

There is a question of the availability of the 0.1% fuel. If it is not available in sufficient quantities today, I contend that the shipping industry, if given time to switch, will find that a Hawaii refinery will accommodate by producing the 0.1% fuel. It would be a great financial benefit to our local oil refinery industry. There is a trend nationwide to switch to the higher grade fuels and Hawaii has to be a part of that. Perhaps the switch could be gradual, to 0.5% the first year and 0.1% thereafter. These cruise ship companies already use 0.5% fuel in California.

The ships must switch fuels while out at sea. Why should they be allowed to put out toxic waste while entering port? They provide no evidence of there being any problem while switching before entering California ports. Besides, as they enter Nawiliwili harbor they must have a tug standing by outside. So if they switch 3-5 miles offshore and there is a problem, the tug is right there anyways. There is no great cost saving for an extra 20 minutes of operating on clean fuel.

The cost of using cleaner fuel is approximately \$0.50 per passenger, which can be added to the fare. This is not a financial burden to the cruise industry.

Norwegian Cruise Lines America, Inc. has basically stonewalled and refused to cooperate with the community, contrary to what they have testified. As they stated, their bottom line is the profits for the company, not concerns for the lives

and health of the community they are impacting. Their recent pulling of ships from Hawaii proves their lack of concern and I fully expect that they will pull operations completely within a year. But this bill is not directed at NCLA. It is directed at an industry. It must be passed to control air pollution in Niumalu no matter which shipping companies are using the harbor after NCLA leaves. The Department of Transportation is not protecting the community by expanding use of the harbors by pollution spewing ships. They must look at the secondary impacts of harbor expansion and increased usage.

Figure 1. Picture of cruise ship at Nawiliwili harbor taken January 27, 2008 showing typical pollution spewing from smokestack and settling on Niumalu community.



TO: Committee On Energy and Environment (ENE) and Committee On Health (HTH)

DATE:

Wednesday March 19, 2008

10 a.m

Conference Room 309

State Capitol

415 South Beretania St.

My name is Bree Fujita and I'm currently a student at Southern Oregon University but born and raised on Kauai. I go to school in Oregon for approximately 6 months altogether and come home once in a while to spend time with family, friends, and to captivate the island's environment. Therefore, being away from home makes me realize what the island has to offer; whether it being bright sunny weather, pristine beaches, or the lush green island scenery. In between these, where does pollution fit in? This is why I am writing in regards to bill SB 2526: Relating to air pollution.

My Aunt, Uncle and two year old cousin reside at 2342 Hulemalu Rd. They often have to close windows due to the smoke pollution which enters their house and having a great concern about their two year old daughter who can't play outside because the toxic wastes which linger around Niamalu. Majority of the time I visit, we often have to put on the air conditioner so clean air can at least circulate in the home rather than having smoke come in. I begin sneezing, scratching my eyes, and having a runny nose because of the fumes that accumulate outside. According to some internet research, I believe that air pollution to children are the highest because their immune systems are still developing. The study case stated that exposure to toxic air contaminants during infancy or childhood could affect the development of the respiratory, nervous, endocrine and immune systems, and could increase the risk of cancer later in life. So please understand that we all are supporting bill SB 2526 and I just want the residents and well as visitors to be as healthy as possible and not have to suffer from the toxic wastes of cruise ships.

Sincerely,
Bree Fujita