AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

S. HRG. 110–1110

EXAMINE PORT POLLUTION AND THE NEED FOR ADDITIONAL CONTROLS ON LARGE SHIPS

FIELD HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

AUGUST 9, 2007–SAN PEDRO, CA

Printed for the use of the Committee on Environment and Public Works

Available via the World Wide Web: http://www.fdsys.gpo.gov

U.S. GOVERNMENT PRINTING OFFICE

61–981 PDF WASHINGTON : 2012

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED TENTH CONGRESS
FIRST SESSION

BARBARA BOXER, California, *Chairman*

MAX BAUCUS, Montana
JOSEPH I. LIEBERMAN, Connecticut
THOMAS R. CARPER, Delaware
HILLARY RODHAM CLINTON, New York
FRANK R. LAUTENBERG, New Jersey
BENJAMIN L. CARDIN, Maryland
BERNARD SANDERS, Vermont
AMY KLOBUCHAR, Minnesota
SHELDON WHITEHOUSE, Rhode Island

JAMES M. INHOFE, Oklahoma
JOHN W. WARNER, Virginia
GEORGE V. VOINOVICH, Ohio
JOHNNY ISAKSON, Georgia
DAVID VITTER, Louisiana
JOHN BARRASSO, Wyoming[1]
LARRY E. CRAIG, Idaho
LAMAR ALEXANDER, Tennessee
CHRISTOPHER S. BOND, Missouri

BETTINA POIRIER, *Majority Staff Director and Chief Counsel*
ANDREW WHEELER, *Minority Staff Director*

---

[1]Note: During the 110th Congress, Senator Craig Thomas, of Wyoming, passed away on June 4, 2007. Senator John Barrasso, of Wyoming, joined the committee on July 10, 2007.

C O N T E N T S

Page

AUGUST 9, 2007

OPENING STATEMENTS

Boxer, Hon. Barbara, U.S. Senator from the State of California 1

WITNESSES

Solis, Hon. Hilda L., U.S. Representative from the State of California 4
Prepared statement 6
Nichols, Mary D., chairman, California Air Resources Board 8
Villaraigosa, Hon. Antonio R., Mayor, City of Los Angeles 10
Prepared statement 11
Foster, Hon. Bob, Mayor, City of Long Beach 13
Prepared statement 15
Wilson, S. Roy, supervisor, Riverside County, 4th District, Governing Board Vice Chairman, South Coast Air Quality Management District 16
Prepared statement 18
Freeman, David, president, Los Angeles Harbor Commission 23
Knatz, Geraldine, Ph.D., executive director, Port of Los Angeles 24
Prepared statement 26
Steinke, Richard, executive director, Port of Long Beach 29
Prepared statement 31
Avol, Edward L., School of Medicine, University of Southern California 32
Prepared statement 34
Miller, John G., M.D., FACEP, San Pedro Community 37
Prepared statement 38

EXAMINE PORT POLLUTION AND THE NEED FOR ADDITIONAL CONTROLS ON LARGE SHIPS

THURSDAY, AUGUST 9, 2007

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
San Pedro, CA.

The committee met, pursuant to notice, at 10:13 a.m. in the Harbor Commissioners Hearing Room of the Port of Los Angeles Administrative Building, 425 South Palos Verdes Street, San Pedro, CA, Hon. Barbara Boxer (chairman of the committee) presiding.

Present: Senator Boxer.

OPENING STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator BOXER. The hearing will come to order. I want to welcome everyone to today's hearing about a critically important issue for this region and other port communities around the Nation, how to dramatically reduce port pollution at the same time that shipping undergoes rapid growth.

Our port communities must be protected from port-related pollution and other problems, even as ports grow to accommodate more trade. Today, we are here to discuss an issue that we all care deeply about: working together to protect the health of our people from air pollution.

Like you, I am especially concerned about the effects of air pollution on the health of those who are most vulnerable, our children, our elderly, and people with asthma or other diseases.

I will never forget when I first saw a filter taken from an air monitor in Long Beach, not far from where we're meeting today.

Could you tell them to keep it down back there?

When the filter went in, it was pure white. I want to show this to you. It was pure white. Twenty-four hours later, it was totally black. Now, this was taken at Hudson School—24 hours later, it went from pure white to black. That's how much pollution a child's lungs at that elementary school would receive in 3½ months' time. I know we all agree, we're not doing enough to make this better. That is why we're meeting here today for this important hearing on what we can do about air pollution from ports, and particularly from large ships.

I'm very pleased we'll be hearing from Federal, State, and local officials who are spearheading efforts to clean up our ports. I'm going to quickly review those who will be speaking. I am so grateful to all of you, because, you know, suppose you held a hearing and the people you really wanted to hear from didn't come. You

have responded, and I am very, very grateful. Hon. Hilda Solis, Congresswoman from California's 32d District; Hon. Mary D. Nichols, chairman of the California Air Resources Board; Mayor Antonio Villaraigosa, city of Los Angeles; Mayor Bob Foster, city of Long Beach; Supervisor S. Roy Wilson, Riverside County, 4th District, Governing Board vice chairman, South Coast Air Quality Management District; Dr. Geraldine Knatz, executive director, Port of Los Angeles; Mr. Richard Steinke, executive director, Port of Long Beach; Professor Edward Avol, School of Medicine, University of Southern California; Dr. John G. Miller, San Pedro community. We know that David Freeman will be also on our panel, making a very important introduction.

I also want to recognize Assemblywoman Laura Richardson, who is with us. Would you stand up, Assemblywoman? We're very pleased to have you here.

[Applause.]

Senator BOXER. You represent California's 55th Assembly District, and that includes the cities of Carson, Harbor City, Lakewood, Long Beach, and Wilmington. I, of course, and looking forward to working with you.

Furthermore, I want to take this opportunity to recognize the tremendous contribution of local citizen groups. How much we owe them. They've been instrumental in spurring much-needed action to reduce port pollution. Their continued involvement is critical to ensuring effective pollution-control programs. These groups include Coalition for a Safe Environment, Sierra Club Harbor Vision Task Force, Coalition for Clean Air, Long Beach Alliance for Children with Asthma, Communities for a Better Environment, East Yard Communities for Environmental Justice, Center for Community Action, and Environmental Justice, Coalition for Clean and Safe Ports, Communities for Clean Ports, Green L.A. Port Work Group. We really do thank you so much. Truly, the work of citizens groups just make it possible for me to do my job, because you come and tell me what I need to be doing, and I listen.

This hearing is about finding and advancing smart solutions to port-related issues. We recognize that ports are powerful economic engines for their regions, their States, and the Nation. They spur business development, and they create jobs. Our own ports of Los Angeles and Long Beach illustrate that point. Together, they handle—and this is an amazing number—nearly 45 percent of the containerized cargo imported into these United States, and they help sustain the economic vitality of our region. But ports are also a significant source of pollution as ships come and go, harbor equipment load and unload cargo, and trucks and trains move the cargo to and from the docks. How well we know that in the inland empire.

In Southern California, port activities are major contributors to smog and soot pollution that are responsible for 5,400 premature deaths, 2400 hospitalizations, 140,000 incidences of asthma and respiratory problems, and nearly 1 million lost workdays per year. The diesel engines so prevalent in ports also emit toxic air pollutants that can cause cancer and other life-threatening diseases. These harmful effects are disproportionally felt by low-income families. Some of the impacts of this pollution have been pointed out in a letter I received from the Long Beach Alliance for Children

with Asthma, representing thousands of moms in the community concerned about the effects of air contamination on their children.

For example, one mother, named Martha, from the Alliance for Children with Asthma, understands the issue firsthand. Martha says that, after two of her sons were diagnosed with asthma, she became active in the community, working to raise awareness about the dangers of the disease, and urging curbs on air pollution in the area. Martha says she was also recently diagnosed with asthma, herself. She recalls many frightening visits to the emergency room when her son, Jose, then only 4 years old, struggled to breathe. "We were rushing him to the hospital by car, and it's really sad to see your son almost die because he can't breathe. His lips and all of his body turned purple. If people and politicians knew how it feels, they would cry with the mothers of children with asthma. They have to miss school when they're sick, and I have to miss work to be in the emergency room," she says. "It's very difficult. It has affected me in every way."

Now, those words are from the heart, and they are from reality. We have to address this mom. That's what we're supposed to do.

The good news is that we're beginning to see signs of progress recently in reducing port pollution here in Southern California. The Ports of Los Angeles and Long Beach are working with State and local officials to take steps that will move us toward cleaning up port pollution.

Now, I can tell you, I have had visits in my office from mayors, from those of you working to clean the air, and these meetings have been heartfelt, I can assure you of that.

California State and local agencies have made vital contributions to port cleanup by establishing first-ever controls on various sources of port pollution. The Federal Government has begun to address some of the sources of port emissions. But much more progress is needed. Shipping is expected to double and even triple in the next two decades as the result of global trade agreements, and more shipping will bring more pollution unless additional action is taken now.

There's a significant source of port pollution that has, so far, largely escaped adequate regulation. Large oceangoing vessels, such as container ships, bulk carriers, and tankers, they are the fastest growing, least regulated sources of air pollution in the United States today. In Southern California, oceangoing vessels are already the largest contributor to the region's soot-forming emissions of sulfur oxides. By 2023, they're expected to be the largest contributor to the region's smog-forming emissions of nitrogen oxides. Oceangoing ships are subjected to international standards, but, let's be clear, these standards require virtually no control, and our own Federal Government has yet to step up to the task of requiring these large polluters to make significant emission reductions. The Federal Government must regulate these ships. Most oceangoing vessels are foreign-owned, and foreign flagships emit almost 90 percent of the vessel pollution in the United States.

Rather than using existing Clean Air Act authority, the Bush administration is waiting for international negotiations to produce tighter standards. Unfortunately, these negotiations were recently delayed for at least another year. Now, Martha and her family

must not wait another year. At this point, we have no assurance that such an agreement will be sufficient to protect other—our people's health. We must stop wasting time. With ship traffic increasing and new ships being built to meet the demand, we must set standards now so that shipbuilders and operators know what they need to do to clean up this pollution. That's why Senator Feinstein and I introduced the Marine Vessel Emission Reduction Act, to require oceangoing vessels——

[Applause.]

Senator BOXER. Thank you. That's why Senator Feinstein and I introduced the Marine Vessel Emission Reduction Act, to require oceangoing vessels visiting U.S. ports to use cleaner fuel and cleaner engines, whether they are flagged in the United States or elsewhere.

On the House side, I want to thank Representatives Hilda Solis, Jane Harmon, Lois Capps, Henry Waxman, Loretta Sanchez, Adam Schiff, Grace Napolitano, Howard Berman, Diane Watson, and Maxine Waters, who have introduced an identical bill to clean up ship pollution.

Our bill will require oceangoing vessels to dramatically lower the sulfur content of the fuel they use as they travel to and from our ports within 200 nautical miles of the coast. Beginning as early as 2010, fuel sulfur content would drop—and listen to this number—fuel sulfur content would drop from an average level of 27,000 parts per million to 1,000 parts per million, making a huge difference for our air quality. It would also significantly reduce emissions from both new and existing engines, beginning in 2012, by requiring the use of the most advanced technologies. Reducing ship emissions on the bill's schedule would make a much-needed contribution to this region's effort to meet Federal soot and smog standards on time. We must work harder to do everything we can to make progress on this issue.

In closing, I believe it is our moral duty to protect the health of our children, people with asthma, and the people of this community from ship and port air pollution. I am pleased to join with everyone here to find solutions to this problem.

Now it is my great pleasure to ask a wonderful Congresswoman to come forward, Hon. Hilda Solis.

Thank you so much, Congresswoman, for being with us today.

[Applause.]

Senator BOXER. We're going to give our panelists 7 minutes, and then I'm going to have to cut you off, just because we don't have the time. So, can we put that clock back to 7? OK, we—fine. Go ahead. We'll give you an additional minute. It's at 6. Go ahead.

STATEMENT OF HON. HILDA L. SOLIS, U.S. REPRESENTATIVE FROM THE STATE OF CALIFORNIA

Ms. SOLIS. Good morning, Chairman Boxer. I'm so pleased to be here and to see all the different advocacy groups together with our port authorities, our mayors, and also our local advocates, but people that really care and understand this issue.

I know that the California Air Resources Board estimates, as you said earlier, 5,400 premature deaths. I think the thing that we have to keep in mind is that we're talking about real people, real

lives, and loss of jobs, because people can't go to work if they're sick. According to the records I've seen, about 980,000 people lose days of work because of asthma and because of the pollution that surrounds their communities.

Marine vessels and locomotives are the largest unregulated source, emitting more nitrogen oxides than all the refineries and powerplants, 350 of the largest stationary sources in the South Coast Air Basin. That is really atrocious.

Many of the communities on the front lines of the pollution effort to combat that are environmental justice communities, and I believe we're very close to one right here, in San Pedro and Long Beach. They are not well equipped to deal with these kinds or problems and contaminants. In the communities I represent—East Los Angeles and the San Gabriel Valley—there are many poor communities and unstable environments that people have to live in. According to EPA, there have only been 43 enforcement actions that were taken against 39 facilities in Los Angeles County between October 5 and May 2007. What does that tell you? EPA is not doing their job. I've included in my testimony figures, here, charts, to outline where those high contaminated areas are, where enforcement actions have been taken, and where they have not. So, I'd like to submit that for the record.

According, also——

Senator BOXER. Without objection, it will be done.

Ms. SOLIS. According to EPA, 92 percent of people live within a 3-mile radius of these facilities. They're mostly minority, and 51 percent of those individuals live below the poverty line. Environmental conditions, as you know, significantly impact the quality of life and the health of our families. According to a recent study by the California Air Resources Board, persons residing near rail yards face an increased cancer risk associated with increased diesel emissions from expanding goods movements. So, we're talking about our rails that run through our communities, leaving the port and into our areas. The study found that residents in Commerce, CA, near Union Pacific, and three BNSF yards, are 70 to 140 percent more likely to contract cancer from diesel soot than people in other parts of Los Angeles. Other communities near rail yards, such as those in Wilmington and Riverside County, are 11 to 26 percent more likely to contract cancer. At the same time the ports and rail yards negatively impact the health of our communities, they also play a large role in our economy, as we well know.

The Ports of Los Angeles and Long Beach are the fifth largest in the world, and the Nation's busiest. Forty-three percent of the goods that come into the United States enter through these two ports. The amount of cargo handled by the ports is expected to triple in the next 15 years, and the value of goods traveling through these ports will increase by almost $400 billion in the next 15 years. Together, I believe—and we must ensure that our economy grows, but that our public health improves, that workers have safer environments and that costs associated with impacts of pollution on public health are reduced. As we grow our ports, we must also keep in mind that we must grow them green, environmentally clean. This includes vessels.

Unfortunately, the Federal Government, as you stated, has failed to take action to protect the public health. A proposal by EPA, released in April 2007, would not control emissions from marine vessels such as container ships or tankers. It also fails to limit the sulfur content of fuels used in oceangoing ships, the largest source of sulfur oxides in the South Coast Air Basin.

I also found that their proposed rule was very troubling. It did not, at one time, mention environmental justice protections for communities of color or that are underserved. So, there is the injustice, right there. Our EPA is charged with doing this, but they are failing us.

[Applause.]

Ms. SOLIS. Despite a recent announcement from EPA to ensure that agencies' environmental justice considerations are accurately described to the public when proposed, the final regulations were published after January 2007. Well, when the EPA just issued this rule on vessels, they mentioned nothing about environmental justice; yet, the law and the code says they have to. So, here we go again, they're reneging on their promises to our public.

That's why I'm proud to be a lead sponsor of the U.S. House of Representatives H.R. 2548, the Marine Vessel Emissions Reduction Act of 2007. I want to thank you, and I want to thank Senator Feinstein, and I also want to thank the AQMD from our area, because they are really doing a lot more, in terms of enforcement and planning——

[Applause.]

Ms. SOLIS [continuing]. And have just been——

Senator BOXER. If I could just say to the audience, I know that—I'm with you, I want to applaud, too. But when we have these hearings for the Senate, we do have a rule. If you could just—you can applaud people when they're introduced or when they're done, but if we could just not have the interruption, because it comes out of the time of our witness, and we need to hear, we need to listen. If you would just wait until they're done.

Thank you.

Ms. SOLIS. Again, I also want to reiterate my support for our cities that are involved, and also the mayors—the two mayors from Long Beach and Los Angeles—and also the Metropolitan Transit Authority, who recently came onboard as endorsing our legislation.

I look forward to working with you, Senator Boxer, and I am so please to be here and to see the enthusiasm of our communities coming and pulling together. This is what the American public wants.

Thank you, again, for the opportunity to be here and speak to your committee.

[The prepared statement of Ms. Solis follows:]

STATEMENT OF HON. HILDA L. SOLIS, U.S. REPRESENTATIVE FROM THE STATE OF CALIFORNIA

Good morning Chairwoman Boxer. Thank you for inviting me to testify today regarding the difficulties facing our communities as a result of pollution from marine vessels.

The California Air Resources Board (CARB) estimates that each year there are 5,400 premature deaths, 2,400 hospitalizations, 140,000 cases of asthma, and 980,000 lost days of work as a result of poor air quality. Marine vessels and locomotives are the largest unregulated source, emitting more nitrogen oxides than all

of the refineries, power plants and 350 other largest stationary sources in the South Coast Air Basin combined.

Many of the communities on the front lines of this pollution are environmental justice communities, which are the least equipped to deal with the cumulative impacts of environmental contamination. In the communities I represent in East Los Angeles and the San Gabriel Valley, as in others across the country, poor environmental conditions are not equitably distributed.

According to the EPA, 43 enforcement actions were taken against 39 facilities in Los Angeles County between October 2005 and May 2007. Ninety-two percent of people living within a 3-mile radius of these facilities are minority and 51 percent live below the poverty level.

Environmental conditions significantly impact the quality of life and the health of our families. According to a recent study by the California Air Resources Board, persons residing near railyards face an increased cancer risk associated with increased diesel emissions from expanding goods movement. The study found that residents in Commerce, California, near one Union Pacific and three BNSF yards, are 70 percent to 140 percent more likely to contract cancer from diesel soot than people in other parts of Los Angeles. Other communities near railyards, such as those in Wilmington and Riverside County, are 11 percent to 26 percent more likely to contract cancer.

At the same time that the ports and railyards negatively impact the health of our communities, they also play a large and growing role in our economy. The ports of Los Angeles and Long Beach are the 5th largest in the world and the Nation's busiest. Forty-three percent of goods that come into the United States enter through these ports. The amount of cargo handled by the ports is expected to almost triple in the next 15 years. The value of goods traveling through these ports will increase by more than $400 billion in the next 15 years.

Together we can and must ensure that as our economy grows our public health improves, workers have a safer environment, and costs associated with impacts of pollution on public health are reduced. As we grow our ports, we must grow them green. This includes the vessels.

Unfortunately, the Federal Government has failed to take action to protect public health. A proposal by the EPA released in April 2007, would not control emissions from marine vessels such as containerships and tankers. It also fails to limit the sulfur content of fuels used in oceangoing ships, the single largest source of sulfur oxides in the South Coast Air Basin.

I also found this proposed rule troubling because of its lack of attention to environmental justice. Despite a recent announcement from the EPA that it will "ensure that the Agency's environmental justice considerations are accurately described to the public when proposed and final regulations are published after January 2007," this proposal did not mention environmental justice once in its 800 pages.

That is why I am proud to be the lead sponsor in the U.S. House of Representatives of H.R. 2548, the Marine Vessel Emissions Reduction Act of 2007. H.R. 2548 will reduce emissions from marine vessels at our Nation's ports, protecting our communities and other from unnecessary public health risks. I am pleased that you, along with introduced Senator Feinstein, have introduced the Senate companion. Together, with our Air Quality Management District, our cities, our Mayors, the Metropolitan Transit Authority, and our communities we can not only grow our ports—but grow them green.

Thank you for your attention to this matter. I look forward to continuing to work with you to protect the health and welfare of all of our communities.

Senator BOXER. Thank you. Could you stay a minute? I want to ask you a couple of questions.

Congresswoman, you and I have been working on environmental justice issues for a while now. We work—when it comes to cleaning up perchlorate Superfund sites, it just seems that all roads lead to low-income communities that are underserved. So, I think we have an opportunity here, with some of the media here, because we just don't get enough, I don't think, attention paid to this environmental justice issue. I agree with you, in terms of the EPA. I have suggested they change their name from the Environmental Protection Agency to the Environmental Pollution Agency under this President, because we're constantly fighting, I mean, every step of the way.

In terms of environmental justice—because I want to give you this platform for a moment here to talk about this—how do you relate the air pollution problems that are posed by our ports to the environmental justice issue? If you could talk about it.

Ms. SOLIS. Well, the situation exists where you find low-income communities of color that are situated, not by design, but perhaps because of job opportunity and the because the availability of housing that's at a much lower cost for these people that have to find whatever——

Senator BOXER. Right.

Ms. SOLIS [continuing]. Means is affordable to them. So, that's a question, there.

But the real question for us is, Where does our Constitution provide rights, equal treatment under the law? That's where EJ—environmental justice legislation comes into play. It says, "You will treat communities of color no differently from any other communities." I'm very pleased that Cabinet Member Mary Nichols is here, because she helped us work on that legislation in California. We were the first State in California to write that legislation. Now we're trying to get the Federal Government, some 10 years later, to now look back and say we need to institutionalize it so that communities in Mississippi, in New Orleans, that were hit by—hard hit by Katrina, as well as San Pedro, East Los Angeles, and the Bronx, all have equal treatment whenever there are sites that are going to be placed in their communities, that there be a balance, that there not be an overabundance of negative projects that can be harmful to your health, and that we give that balance and fairness, so people don't have to keep going to court to fight that, but that the law will respect them, as well. That's what we're fighting for. You and I have been working on this for over 15 years.

Senator BOXER. Well, I so appreciate your being here. I'm so proud to work with you every day in the Congress. Thank you very much, Congresswoman Solis.

Ms. SOLIS. Thank you very much——

Senator BOXER. Thank you.

Ms. SOLIS [continuing]. Senator.

[Applause.]

Senator BOXER. I will ask our next panel to come forward: Hon. Mary Nichols, chairman, California Air Resources Board; Mayor Antonio Villaraigosa, city of Los Angeles—we welcome you; Mayor Bob Foster, who came to me quite a while ago and introduced himself, and, within 1 minute, he was talking about how we had to work to clean up our air at the ports; and Supervisor S. Roy Wilson, of Riverside County, the 4th District. We're so pleased to have all of you.

So, why don't we just go in the order that I introduced you. So, Hon. Mary D. Nichols, chairman, California Air Resources Board, it's just a pleasure to see you here.

STATEMENT OF MARY D. NICHOLS, CHAIRMAN, CALIFORNIA AIR RESOURCES BOARD

Ms. NICHOLS. Thank you so much, Senator Boxer. It's a pleasure to greet you as the chair of the Environment and Public Works Committee, and to reflect on the fact that, when I first met you,

you were, as a local elected official, on the board of the Bay Area Air Quality Management District. So, you've——

Senator BOXER. That's right.

Ms. NICHOLS [continuing]. Been fighting for clean air for a long time, and it's great to be able to work with you again.

As you pointed out, and others will underscore, California is facing an unprecedented growth in the trade that flows through its ports. We expect that cargo may triple between 2000 and 2020. This presents us with tremendous challenges in a situation where we're already dealing with unacceptable levels of pollution, particularly the diesel toxic and particulate matter emissions that come from goods-movement activities. Ship emissions have been of particular concern to California for many years now, and we've been struggling in this area, along with the recognition that we have a critical need to reduce the cancer risk from the particulate matter. Diesel is the largest single source of particulate matter, and the port is a hub for these kinds of activities. So, it really is a question of environmental justice, and it's not just Los Angeles, it's all of our major ports in the State that are facing these issues. Oakland, San Diego, Port Hueneme, Stockton all constitute hotspots for toxic air contaminants. Major ports around the country—your legislation obviously would affect other cities—Houston, Galveston, New York, New Jersey, Seattle. We face similar problems, and we're all struggling with the fact that we're not getting the help that we need at the national or the international level. We know that there are proposals underway, but they're not moving quickly, as you've noted, and U.S. regulations just don't go far enough.

The Air Resources Board has been, in its own way, moving forward under a goods management plan that was adopted several years ago. We have two important rules, one of which is actually in effect now, dealing with the auxiliary engines on the oceangoing vessels. It requires them to use cleaner-burning fuels as they are in the 24-nautical miles of the California coast. We're being sued by the Pacific Merchant Shipping Association over those regulations, on the grounds that they think we're preempted by the Clean Air Act and that we don't have authority for these regulations. Now, the good news is that, despite the litigation—we have been monitoring—and there is compliance underway, in any event—most of the firms—most of the ships that we have inspected are, in fact, coming into compliance with the rules. But if this litigation is successful, we would be completely blocked from any kind of enforcement.

We have been able to push ahead with rules dealing with the cargo-handling equipment at the ports and the rail yards. In October, we're going to be moving forward to consider regulations on harborcraft. We're looking at the port drayage trucks in November. Then we're going to be looking at shoreside power. Finally, in December of this year, we expect to be considering another rule, that will be the really big one, that deals with the main engines on the oceangoing vessels. But, again, we expect major legal challenges to our efforts to move in this area.

We need EPA's help to address the ship emission pollution. National action would go a long way. Of course, international action would be even better. But the fact is that the proposals that have

been put forward, which are, you know, reasonable proposals, and—are not moving. The fact that we do have support at the IMO for a U.S. proposal indicates that there is a feasible way forward here. We're not asking for technologies that don't exist, or for fuels that can't be produced. I think if there were action at the Federal level, if you were able to move your bill forward, we think that there would be a recognition on the part of other countries of U.S. leadership. This would also go a long way within the international framework toward getting us to a resolution.

So, again, we think that the legislation that you are proposing is conceptually right, that it moves us in the right direction, and, without it, we are simply going to continue to struggle and be frustrated at every turn in our effort to deal with this critical health problem.

Thank you.

Senator BOXER. Thank you so much. It is so wonderful to have you back in such an amazingly important position.

I'm just thrilled to see you.

Ms. NICHOLS. Thank you.

Senator BOXER. Mayor, we welcome you. Mayor Villaraigosa, along with Mayor Foster, have been pushing very hard on this. I really welcome you, Mayor, and please address us. Is your mike on?

STATEMENT OF HON. ANTONIO R. VILLARAIGOSA, MAYOR, CITY OF LOS ANGELES

Mr. VILLARAIGOSA. Senator Boxer, it's good to be here with you today. I want to thank you and Congressmember Solis for your leadership on this issue, as well as Senator Feinstein and Congressmember Harmon. What a difference a majority makes. Let me just make that absolutely clear, because——

Senator BOXER. Can you make that clear just one more time?

[Laughter.]

Mr. VILLARAIGOSA. What a difference a majority makes, a new majority. I can tell you that I've been major now for 2 years, knocking on the doors of the Congress, asking for support from the Congress and the Administration, for help in addressing the need to clean up our ports. Now, those requests for help will no longer fall on deaf ears, with the Marine Vessel Emissions Reduction Act of 2007. So, I thank you.

This bill marks a necessary first step in the fight to reduce air pollution, cut emissions, and preserve the health of our local communities, as Congressmember Solis said. It brings the Federal Government to the table as a real partner with ports across the Nation to address an urgent public health challenge.

At the center of our efforts here in Southern California is the reduction of our pollution at the Ports of Los Angeles and Long Beach. I'm very proud to be sitting here, as I am so often, with my colleague and friend Mayor Foster. Together, these ports handle nearly 45 percent of all the seaborne goods that enter the United States each year. This contributes $260 million to our national economy, and $28 billion in State and local revenues. As Secretary Nichols—or soon-to-be Secretary Nichols, I guess you haven't been confirmed yet—but has mentioned, it's going to triple in the next 20 years. We believe that, as we grow, we have to green our ports.

It—this port is a cornerstone for our economy, a gateway to the East, and a portal to the South, it's America's primary access point for international trade and commerce, but, as Congressmember Solis mentioned, it also is a big contributor to public health issues in the region.

Recognizing the tremendous impacts of our ports and their unparalleled growth over the last 25 years, Mayor Foster and I have made greening the ports a centerpiece of our environmental agenda. We introduced and adopted the Clean Air Action Plan, with the help, of course, of the two ports, the Ports of Los Angeles and Long Beach. This plan is a multifaceted initiative that would reduce harmful emissions, improve air quality, and create a healthier environment for all our families. This plan is the first of its kind in the country, a model of collaboration, and a framework for building green ports everywhere. It is the most far-reaching effort to clean up a port, not at—not just anywhere in the country, but anywhere in the world, and will be a template for what other ports around the world do to clean up their ports.

We're already making good on our commitments. We've commissioned 16 clean locomotives which use 30 percent less fuel and will cut nitrogen oxide emissions by 53 percent. Later this year, we'll adopt a clean truck program, which will replace older diesel trucks with alternative-fuel vehicles. We partnered with Maersk Line, one of the largest cargo shipping companies in the world, to convert all the ships to cleaner fuels, reducing emissions by 73 percent. We pioneered the use of "cold ironing," allowing ships to shut off their engines overnight and recharge with electric power.

We've done our part, Senator, we'll continue to work tirelessly to make our ports examples of green growth and economic vitality. The Marine Emissions Reduction Act is a landmark piece of legislation that brings the Federal Government as a full partner in this effort. It represents the bold vision and commitment of Senators Boxer and Feinstein, and Congresswomen Solis and Harmon, and recognizes the potential of our ports to be engines of economic growth and environmental innovation. It's the product of a partnership between local, State, and Federal officials dedicated to growing green. It will serve as a blueprint for improving air quality for future generations. I urge the Congress to send this bill to the President's desk without further delay.

I thank you for allowing me to speak today, and I look forward to answering any questions you may have.

[The prepared statement of Mr. Villaraigosa follows:]

STATEMENT OF HON. ANTONIO R. VILLARAIGOSA, MAYOR, CITY OF LOS ANGELES

Senator Boxer and members of the Environment and Public Works Committee, I thank you for the opportunity to come before you today to express my support for S. 1499, the "Marine Vessel Emissions Reduction Act of 2007." This legislation will put the federal government squarely to the task of mitigating the harmful environmental effects of international shipping while supporting the continued growth of foreign trade. I thank Senator Dianne Feinstein for her co-sponsorship of this important legislation, and I want to acknowledge the work of Congresswoman Hilda Solis who has sponsored the companion legislation in the House of Representatives along with Congresswoman Jane Harman. I enthusiastically endorsed your legislation upon its introduction and look forward to its final passage.

This is an extremely important hearing on the pressing issue of mitigating air pollution at our Nations' seaports. I certainly appreciate the necessity of the "Marine Vessel Emissions Reduction Act," as I have struggled with the task of addressing

the mitigation of goods movement-related air pollution in Los Angeles. These harmful emissions are a result, in part, of the great business successes of the Port of Los Angeles and the Port of Long Beach which comprise the largest container seaport complex in the United States, and fifth largest in the world.

Last year, the Ports of Los Angeles and Long Beach moved an astounding 15.7 million TEUs, or twenty-foot equivalent units, representing an 11 percent increase over the previous year, and continuing an impressive sustained growth for American seaports.

Together, these two mega-seaports handle approximately 45 percent of the containerized consumer goods imported into the United States annually, registering $260 billion in economic impact, $28 billion in State and local revenue and 3.3 million jobs nationwide. In Southern California alone, the allied maritime and goods movement industries have created more than 500,000 permanent jobs and remain poised to generate even more middle-class jobs for our communities.

While the growth of the Ports has outpaced all projections over the past 25 years, our current forecasts predict a tripling of current container cargo volumes over the next 25 years, especially from our Pacific Rim trading partners.

Against this backdrop, and the current levels of harmful air pollution in the Los Angeles region, I have promoted the principle of "green growth." Put simply, we must address the harmful environmental and health effects of trade activity as we facilitate trade growth—and the jobs and economic opportunity it brings.

With that, our challenge—that of the two ports and the cities of Los Angeles and Long Beach—is to effectively accommodate the burgeoning growth of our seaports while, at the same time, reducing the burden on the environment and public health.

Following an unprecedented collaboration between the two ports and local, State and Federal Agencies, including the South Coast Air Quality Management District (SCAQMD), the California Air Resources Board (CARB), and Region 9 of the United States Environmental Protection Agency, and extensive research, study and discussion, the Boards of Harbor Commissioners for the Ports of Los Angeles and Long Beach unanimously adopted the San Pedro Bay Ports Clean Air Action Plan (CAAP) last November.

The Clean Air Action Plan is a 5-year plan designed to develop air pollution mitigation standards and incentive programs necessary to reduce harmful air emissions, thereby making vast improvements to the air quality and creating a healthier environment for all our citizens, while allowing port development to continue apace. It is a starting point, and will be continually subject to review and modification on an annual basis.

The Clean Air Action Plan is the first endeavor of its kind in the country, stands as a model of public/private collaboration for other ports, and provides a framework for environmental improvements that work hand-in-hand with the future growth of the ports.

Over the next 5 years, the CAAP will address the five sources of port-related air pollution:

1. Heavy-duty vehicles—trucks—that operate at the ports;
2. Cargo-handling equipment engine standards;
3. Harbor craft engine standards;
4. Railroad locomotives using clean alternative fuels and cleaner engines;
5. Container ships and other ocean-going vessels calling at the Ports through speed reduction standards, low sulfur fuel use and cold-ironing.

The Ports of Los Angeles and Long Beach have made significant strides in advancing this landmark plan. On July 11, together with my friend Mayor Bob Foster of Long Beach, we commissioned 16 clean locomotives that were purchased with funds from both ports, Pacific Harbor Lines and the Carl Moyer Program. Switching to these cleaner locomotives will result in a 53 percent reduction in nitrogen oxide emissions and a 45 percent reduction in particulate matter emissions per locomotive—that equates to removal of an estimated 163 tons of nitrogen oxide and 3 tons of particulate matter each year! The new locomotives use 30 percent less fuel, reducing greenhouse gases.

Later this year, the San Pedro Bay Ports' Clean Truck Program will begin the process of retrofitting and replacing older dirty diesel port trucks that emit high levels of particulate matter and greenhouse gases with cleaner fuel and alternative fuel trucks that will further reduce health risks to our citizens.

Another component of the CAAP sets forth innovative approaches for reducing emissions from ocean-going vessels. This includes "cold ironing," whereby ships at berth switch off their diesel engines and plug into shoreside electrical power. Alternative technologies will be available to container ships unable to utilize the "cold-ironing" shoreside-power model.

We are also working in partnership with environmental leaders in the business community. In May 2006, Maersk Lines—the largest container carrier in the world—announced they would convert all of their ships to using low sulfur fuel—that is, 0.2 percent sulfur diesel—in the main and auxiliary engines 20 miles out of Port.

Through the CAAP and with the participation of the business community, we hope to make significant gains in the reduction of emissions from marine vessels. But, more can be done.

The "Marine Vessel Emissions Reduction Act" is landmark federal legislation and I applaud you, Senator Boxer, as well as Senator Feinstein and Congresswomen Hilda Solis and Jane Harman, for your collaboration in crafting this important measure.

I believe the Marine Vessel Emissions Reduction Act and the San Pedro Bay Ports Clean Air Action Plan will work in concert to effectively reduce air pollution from seaports and mitigate the serious threats to our environment and public health.

As federal law, the Marine Vessel Emissions Reduction Act will have the reach that the CAAP does not. Your measure will have the power to regulate foreign-flagged vessels that are currently unregulated and represent the main source of air pollution at the San Pedro Bay ports. Foreign-flag vessels, including container ships, tankers and cruise ships, emit more than 90 percent of all pollution from ocean-going vessels.

I understand that the Environmental Protection Agency (EPA) will be the lead agency responsible for the regulation and the enforcement of the new emissions standards. Because Region 9 of the United States EPA participated in the development of the CAAP and continues to be an important member of this historic partnership, I believe that your legislation and the Clean Air Action Plan will work in tandem.

In closing, Senator Boxer and members of the Committee, once again I would like to express my strong support for your legislation and my commitment to helping you see it through to final passage and enactment. The economic potential of the San Pedro Bay Ports of Los Angeles and Long Beach is well demonstrated and will continue, but hand-in-hand with these new environmental standards and initiatives that will enable the ports to "grow green."

These are complex environmental and economic challenges, but challenges that, in my opinion, offer an opportunity for us to expand our current boundaries and embrace a new way of thinking and doing by embracing the principles of the Marine Vessel Emissions Reduction Act and the San Pedro Bay Ports Clean Air Action Plan.

I appreciate your holding this important field hearing here at the Port of Los Angeles. We here in the Los Angeles area look forward to working with you and the Committee on Environment and Public Works to see this legislation through to completion.

Thank you, again.

Senator BOXER. Mayor, thank you so much.

Mayor Foster, we welcome you, mayor of Long Beach.

STATEMENT OF HON. BOB FOSTER, MAYOR, CITY OF LONG BEACH

Mr. FOSTER. Thank you very much, Madam Chairman. It's always a pleasure to see you.

I want to also say it's a pleasure to also see my good friend Hilda Solis and Secretary Nichols and my good friend, the mayor of Long Beach.

Thank you for having me——

Senator BOXER. Mayor of Los Angeles.

Mr. FOSTER. Did I say——

[Laughter.]

Senator BOXER. I don't—is there some kind of job-——

[Laughter.]

Senator BOXER [continuing]. Changing here going——

Mr. FOSTER. Actually, I also am pretty friendly with the mayor of Long Beach, too. So——

[Laughter.]

Mr. FOSTER [continuing]. You'll have to forgive me.

Senator BOXER. He likes you very much.

[Laughter.]

Mr. FOSTER. Anyway, thank you for having me here this morning.

As you mentioned, shortly after I was elected, I did go back to Washington, and I had a conversation with you, and it was an extraordinarily fruitful conversation. We talked about the need to clean the air. You obviously knew those issues, and you exerted leadership. I want to thank you for that leadership. That word is key here.

There is no doubt about what this problem is. We can—we'll hear testimony today—you'll hear testimony today—about the air quality issues, about the health effects of the port, and about the economic importance of the port. We know what has to be done. We know it's important to clean this air. These ports are going to grow, probably, one way or another. But the air quality impacts and the health effects associated with them are dramatic. You took action. You introduced the legislation to clean up vessels. I think that was critical. It's a critical part of this puzzle.

I might add that, when I was back there at that time, I also met with the EPA, and I wish I could say that the response in that meeting was anywhere near as productive.

It was not. I was basically told that we're going to have to take 5 years to work on MARPOL–6. My guess is that EPA is still reviewing their notes from that meeting. This——

[Laughter.]

Mr. FOSTER. It's just simply unacceptable, in terms of a charge to protect public health.

So, you exerted leadership. I just want to start by saying thank you.

We all know that these ports are the undisputed gateway to the United States, they carry 45 percent of the goods bound for the rest of the country. We all know they're going to grow. At some point, they'll have—carry, probably, 70 percent of the imported goods into the United States. They are vital for the livelihood of, not only Southern California, but the rest of the country. But when you're talking about a tripling of cargo, and you're talking about the kind of health impacts, we all know that goods movement is a national issue, that the pollution caused by the attendant trucks, ships, and locomotives is felt acutely in neighborhoods. You heard about the environmental justice aspects of that.

Quite frankly, the level of growth contemplated is unsustainable without major environmental enhancements. These ports not only have to just grow green, they have to be markedly cleaner than they are today with that growth. That's the key.

I've said this many times—we talk about environmental justice, but we can no longer afford to have kids in Long Beach contract asthma so someone in Kansas can get a cheaper television set. That's simply not acceptable. We have to be able to provide the leadership here to clean these ports.

Now, you know, we're—the local area is doing its part. Mayor Villaraigosa has indicated that we've worked well together on the

Clean Air Action Plan, which will reduce pollution from these ports by 45 percent in 5 years. In addition, we're working on funding for that plan, which is key. The ports have already put in $300 million. We're going to put a local container fee on, and a truck fee, to cleanup both the trucks and provide for infrastructure improvements in the port. The key—the key there is to tie those together, because—Senator Boxer, you know this—there'll be tremendous pressure and force behind increasing the infrastructure in these ports to move more goods at greater velocities.

I want those same interests that are aligned to be able to say that they want more cargo, faster, through those ports. I want them aligned with cleaning up these ports. I want it to be in their financial interest to clean up these ports, as well as the health interest. So, tying these programs is essential.

So, the one part that we can't deal with is what's a national issue. The Federal Government regulates locomotive and regulates ships. Again, just to give you—you know these numbers, but the vessels now that are coming in to the Ports of Los Angeles and Long Beach contribute a significant amount. The vessels generate 59 percent of the particulate matter, and they have 90 percent of the sulfur oxide in southern—in the South Coast Air Basin.

Your legislation would regulate them at 1,000 parts per million. Some of the ships coming into these ports are at 27,000 parts per million. So, it is essential that the Federal Government be a partner with local government. We have both the local government, the State Government, working jointly on this to clean these ports. It is just gratifying to see the Federal Government finally move in this direction.

I want to thank you. I want to thank Senator Feinstein and all of those in the House who are contributing to this effort. I welcome your leadership here. I pledge that the city of Long Beach and I will work as hard as we can to help you pass this legislation. Again, thank you for your leadership.

[The prepared statement of Mr. Foster follows:]

STATEMENT OF HON. BOB FOSTER, MAYOR, CITY OF LONG BEACH

Good morning. Senator Boxer, Congresswoman Solis, Supervisor Wilson and Director Nichols, I join my colleague from Los Angeles in welcoming you to the San Pedro Ports.

Senator Boxer, thank you for your leadership on tackling port pollution. When we first spoke about these issues just after my election last year, you knew well the air quality challenges facing Long Beach and all of California and asked what you could do to help. Your introduction of The Marine Vessel Emissions Reduction Act is a significant effort to bring another solution to the air quality challenge to the table. I want to thank you for your leadership on this front.

We all know that these two ports are the undisputed gateway to the United States. The containers that cross these docks on their way to destinations across America carry more than 45 percent of our country's imported consumer goods. And the projections for the Ports of Long Beach and Los Angeles show a near tripling of cargo in the next decade.

Goods movement is truly a national issue—but the pollution caused by the attendant trucks, ships and locomotives is felt acutely in neighborhoods along California's freeways and next to our rail yards.

Quite frankly, the level of growth contemplated is unsustainable without environmental enhancements that make these ports operate cleaner than they are today, despite any increase in volume.

As I have said many times before: We can no longer have kids in Long Beach contract asthma so someone in Kansas can buy a cheaper TV.

It is going to take the collective energies of our cities, our ports, our commercial interests, the State of California and the Federal Government to be successful at this environmental effort.

Here at the local level, our two ports have launched the Clean Air Action Plan (CRAP), a landmark effort to reduce emissions by at least 45 percent within the next 5 years.

Here's just one immediate example of the need for this broad collaboration I mentioned: Even with voluntary commercial participation in port-sponsored programs that call for reduced off shore speeds, ocean-going vessels continue to be one of the largest contributors to air pollution in Southern California. These vessels generate 59 percent of diesel particulate matter (DPM) and 90 percent of the sulfur oxide (SOx) in the South Coast Air Basin.

Jurisdiction on regulating those vessels, however, falls outside the realm of the ports or either of our cities.

In closing, I believe that we have just one chance to do this right—and I truly believe that opportunity is before us now.

The country looks to California for environmental leadership and the entire world is watching closely to see where we take them in this effort.

Senator Boxer, thank you again for your keen focus and willingness to tackle these challenges.

Thank you for the opportunity to present before the committee and I look forward to building on this dialogue in the months ahead.

Senator BOXER. Thank you so much.

[Applause.]

Senator BOXER. Thank you very much, Mr. Mayor.

Our last speaker before—I'm going to ask some questions, so, all of you, please stay—Supervisor Roy Wilson. I want to tell you that he is the supervisor from Riverside County, the 4th District. He is Governing Board vice chairman of the South Coast Air Quality Management District. I am his constituent. So, needless to say, I am very proud that my supervisor has stepped up to the plate on this.

So, please, Supervisor Wilson.

STATEMENT OF S. ROY WILSON, SUPERVISOR, RIVERSIDE COUNTY, 4TH DISTRICT, GOVERNING BOARD VICE CHAIRMAN, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Mr. WILSON. Thank you very much, Senator Boxer. It is, indeed, a pleasure to be here.

As you indicated, I'm here today as vice chairman of the South Coast Air Quality Management District, but I'm also very honored to be your supervisor in the Coachella Valley portion of Riverside County.

The South Coast AQMD is the agency with the job to achieve Federal and State clean air standards in the South Coast Basin, a region that is home to over 16 million people.

We have made great progress in reducing air pollution in recent decades, but only—but our basin still has the dirtiest air in the country. The California Air Resources Board estimates that over 5,400 people die prematurely every year in this region due to harm from particulate matter. Other documented health impacts include permanent injury to children's lung function, increases rates of asthma and heart disease, and increased cancer risks.

On behalf of the South Coast Air District, I want to commend you, Madam Chairman, for your leadership in introducing a critical public health problem—or a solution to the problem, and that is by introducing S. 1499. This region simply cannot achieve clean air standards, as mandated by Federal law, unless oceangoing vessels

such as container ships switch to cleaner fuels and cleaner engine technologies, as your bill would require.

Here's why your bill is so important. In recent decades, the AQMD has adopted the most stringent emissions standards in the country for stationary sources, such as refineries, factories, and power plants, as well as for other sources—any other source we could identify, such as barbeque lighter fluids, residential water heaters, and household paints. Yet, we still fall short of attainment. In order to meet Federal air quality standard emissions of sulfur oxides, we must cut these emissions by half by 2014.

In addition, nitrogen oxides must be cut by over 70 percent by 2023.

Given this challenge, it is shocking to consider that, just upwind of our region, maritime vessels operate enormous engines, some of them three stories high, without any emission controls to speak of. These vessels also burn some of the dirtiest fuel in the world, literally the bottom of the barrel left after the refining process. As has been mentioned numerous times, this sludgelike fuel sulfur content is about 27,000 parts per million. Thanks to you, we hope to reduce that to 1,000 parts per million.

To meet Federal PM standards, the sulfur content of marine vessels must be cut by 95 percent, as your bill calls for. This is needed, because the burning of marine fuels is the single largest source of sulfur oxide emissions in this region, accounting for approximately one-half of all such pollution. Oceangoing vessels are also on track to become the third largest source of NOx emissions by 2014, and the single largest source by 2023. Reducing marine vessel NOx emissions is critically important to attaining our goals.

Unfortunately, despite the clear harm to public health, the Federal Government has not provided any real assistance in controlling these massive pollution sources. EPA rules are weak and do not even touch the source of over 85 percent of marine emissions: foreign flag vessels in U.S. waters. In this Federal vacuum, State and local governments have sought to act. San Pedro Bay ports have stated they will use their authority as landlords to impose environmental conditions in terminal leases, and the California Air Resources Board has adopted a rule limiting emissions from small secondary engines on vessels. But there are challenges for State and local governments seeking to control these international sources, and only the Federal leadership in the Federal Government will be able to help us attain these goals.

Some stakeholders have shown great leadership. Maersk, the world's largest shipping company, recently began to voluntarily use lower-sulfur fuels in the engines near the California coast. This responsible action showed that marine pollution can be controlled, and that it can be done while satisfying business needs. There are many other effective technologies available to comply with your bill's safeguards.

Your bill will create a level playing field for local businesses and those like Maersk who have taken actions to maintain public health. Your bill will assist port cities around the country to achieve healthful air quality, and will prevent competitive disadvantages for ports that do so. This bill will allow for economic growth in an environmentally responsible way.

On behalf of the AQMD and the millions of people who suffer from air pollution, we thank you, Senator Feinstein, for introducing this very, very legislation.

[The prepared statement of Mr. Wilson follows:]

STATEMENT OF S. ROY WILSON, VICE CHAIRMAN OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Good morning. My name is Roy Wilson. I am here today in my capacity as Vice Chairman of the South Coast Air Quality Management District, and I also serve as a member of the Board of Supervisors of Riverside County. The South Coast AQMD is the agency with the job to achieve federal and state clean air standards in the South Coast Air Basin, a region that is home to over 16 million people.

We have made great progress in reducing air pollution in recent decades, but our Basin still has the dirtiest air in the country. The California Air Resources Board estimates that over 5,400 people die prematurely every year in this region due to harm from particulate pollution.

Other documented health impacts include permanent injury to children's lung function, increased rates of asthma & heart disease, and increased cancer risks.

On behalf of the South Coast Air District, I want to commend you, Madame Chair, for your leadership in recognizing a critical public health problem and introducing S–1499.

This region simply cannot achieve clean air standards as mandated by federal law unless oceangoing vessels such as container ships switch to cleaner fuels and cleaner engine technologies, as your bill would require.

Here's why your bill is so critical:

In recent decades, the AQMD has adopted the most stringent emission standards in the country for stationary sources such as refineries, factories and power plants, as well as for every other source we could address, from barbeque lighter fluids to residential water heaters to household paints.

Yet we still fall short of attainment. In order to meet federal air quality standards, emissions of sulfur oxides must be cut by over half by 2014. In addition, nitrogen oxides must be cut by over 70 percent by 2023.

Given this challenge, it is shocking to consider that just upwind of our region, marine vessels operate enormous engines (some over three stories high) without any emission controls to speak of. These vessels also burn some of the dirtiest fuel in the world—literally the bottom of the barrel, left after the refining process. This sludge-like fuel has a sulfur content averaging 27,000 parts per million, orders of magnitude beyond the sulfur content of fuels used on land. Due to prevailing winds, emissions from this fuel contribute to health risks all the way to inland counties.

To meet federal PM standards, the sulfur content of marine fuels must be cut by over 95 percent, as your bill calls for. This is needed because the burning of marine fuels is the single largest source of sulfur oxide emissions in this region, accounting for approximately one-half of all such pollution.

Oceangoing vessels are also on track to become the third largest source of NOx emissions by 2014, and the single largest source by 2023. Reducing marine vessel NOx emissions is critical to our attainment goals.

Unfortunately, despite the clear harm to public health, the federal government has not provided any real assistance in controlling these massive pollution sources. EPA rules are weak and do not even touch the source of over 85 percent of marine emissions—foreign flag vessels in U.S. waters. In this federal vacuum, state and local governments have sought to act. San Pedro Bay ports have stated they will use their authority as landlords to impose environmental conditions in terminal leases, and the California Air Resources Board has adopted a rule limiting emissions from small secondary engines on vessels. But there are challenges for state and local governments seeking to control these international sources, and federal leadership will be vital to full attainment of clean air goals.

Some stakeholders have shown great leadership. MAERSK, the world's largest shipping company, recently began to voluntarily use lower sulfur fuels in its engines near the California coast. This responsible action showed that marine pollution can be controlled, and that it can be done while satisfying business needs. There are many other effective technologies available to comply with your bill's safeguards.

Your bill will create a level playing field for local businesses and those like MAERSK who take actions needed to maintain public health. Your bill will assist port cities around the country to achieve healthful air quality, and will prevent competitive disadvantages for ports that do so. This bill will allow for economic growth in an environmentally responsive manner.

On behalf of the AQMD and the millions of persons suffering from air pollution, we thank you for introducing this landmark legislation, and we offer whatever assistance we can provide to see it adopted.

Thank you.

Senator BOXER. Well, I'll tell Senator Feinstein you said that. I'm the short one—Barbara Boxer.

[Laughter.]

Senator BOXER. But we are in this together, and I thank you so much, Supervisor.

I—yes, I think he deserves that, too.

[Applause.]

Senator BOXER. I have a couple of comments to make, and then I'm going to have a question for each panelist.

I cannot tell you how great I feel right now to hear all of your words. It may seem strange to you that I say that, because you're here in California, and California's on the cutting edge of environmental sanity. Unfortunately, it's not that way in Washington. I'm sure that my staff is marveling as they listen to your words.

What I want to tell you is that what you represent, really, this panel—and I know the next one will be the same—is really common sense for the common good. But when you really dissect each of your words, you're all getting to the same point. If you can't breathe, you can't work. We need to grow, but we need to grow in a wise way. We can do this. We want the Federal Government to be our partner. That pretty much, I think, says it, says it all.

Now, what I want to convey to you is that—something that you know, but I want to make sure you know, because you're the leaders here, and that is that the agency that's charged with the responsibility to protect the health of our people, the Environmental Protection Agency, seems to be more interested in protecting special interests than in protecting public health. This——

[Applause.]

Senator BOXER. I want you to withhold, if you would, although I share your enthusiasm for those remarks.

[Laughter.]

Senator BOXER. You know, this is a battle that I am involved in every day, because I head, now, the Environment and Public Works Committee. I am fighting it every day—California waiver, that we are needing in order to address the issue of global warming, tied up—and I have very bad feelings about what's going to happen, in terms of that decision—particulate matter in the air, the new rule on ozone, where you have the EPA administrator essentially saying, "I know we need to tighten up, but, you know what, I'm still considering not tightening up." It just goes against the rule of law and what the EPA is supposed to do.

Now, Congresswoman Solis, who left, because, I know, she has a hectic day ahead of her, she's engaged in the same thing. Congressman Waxman, and all the names that you heard, we're engaged in this battle.

So, what I'm going to do, with your approval, is to brief the EPA administrator on your comments, give him your written comments, give him the sense of urgency that you've brought to the table, and I'm going to ask each of you—if I need you to come back to D.C., either to help me make the case one-on-one with the administra-

tion, or to appear before me in the Environment Committee, would you each be willing to do that? I see nods of heads all the way down. That's really important.

The last point I'd make before I ask a question is this, and it's really for everybody to think about. If any one of us was walking down the street, and we heard a train coming down the tracks at full speed, and there were 5,400 people lying on the tracks, we'd scream and yell and grab them and push them out of the way. What you're doing here today, in a very nice way, is, you are screaming on their behalf, with very, I think, patient words. The people out there—and I know how hard you've been working. Just know that your voice is heard. Just know that, to the ultimate amount of the power that I have as chair of this committee, I will force the EPA to confront these 5400 premature deaths and everything else that goes along with it. But what you do for me when you come out like this in these hearings is, you just give me the courage and the faith, because it gets pretty brutal back there.

But change has come, in the form of who holds the gavels of these committees. Senator Feinstein holds the gavel on the Appropriations Subcommittee that deals with the EPA. These things are all good. You know, hopefully change will come in the near future all across the board in Washington. This is what we need.

So, let me start, Supervisor Wilson, with you, and ask you this. The Bush administration, when we went to them and asked their support for this legislation that will make sure that these foreign ships cleanup their act—that's what we're talking about—they said, "Well, you know, we're negotiating, and we're—this is an international question." So, I'm asking you, as a county supervisor from Riverside County, not known as a Democratic county or—in any way—can we afford to wait for an international agreement to be reached before we pass these bills?

Mr. WILSON. Absolutely not. It would take years to do that. People are dying today. We need this legislation now. We need it passed by two-thirds vote so we can override a veto, if it comes.

Senator BOXER. Music to my ears. Thank you.

[Applause.]

Senator BOXER. Wait, wait, wait—and, Mayor Foster, as I remember back, not only did you, sort of, grab me by the shoulders—not literally, but figuratively—and said, "This is an issue you have to address," but then I came back to see you in your office in Long Beach and we talked further about it. What actions has your city had to take to address the health impacts of port pollution? Don't these impacts represent a cost to your city in human and financial terms?

Mr. FOSTER. Well, Madam Chairman, we actually have our own health department in Long Beach, but the—just to give you a couple of statistics——

Senator BOXER. Yes, please.

Mr. FOSTER [continuing]. Along the 710 Corridor, which is the—which is the one that's impacted from goods movement in and around the city of Long Beach, you have three times the statewide asthma cases, you have three times higher incidence in that area than you do with a statewide average. You know, there has been health studies up and down the State that demonstrate increases

in heart disease, increases in cancer rates, truncated lung development. Those are impacts today. You know, the truth is—and that's why I'm—we're subsidizing inexpensive goods movement with the help of our citizens. That's just simply intolerable.

You know, the stupidity of it is—I mean, just step back for a moment—you're—we had a lot of manufacturing move from this country overseas, and a lot of jobs move overseas. Now, that may be part of the world economy, and it was bound to happen, because you couldn't keep a huge percentage of the manufacturing in the United States. But to now subsidize, in addition to that, with huge health effects, the very goods that we used to manufacture, being imported into this country without paying for it, without cleaning it up, is simply ridiculous. To tell you—this thing about——

[Applause.]

Senator BOXER. Just hold, hold.

Mr. FOSTER. The thing about international treaties—you know, I sat with EPA, as I said. They told me 5 years for MARPOL–6. That's simply unacceptable. I don't know how many premature deaths and how many cases of cancer and how many heart disease and asthma cases there are going to be. Quite frankly, one is too much. We have to be sensible about this. I will be happy to go, anytime, and talk to anyone, even though, quite frankly, going back and spending more time with EPA—I'd probably rather get a root canal. But I'll be happy to do it, because I think someone has to demonstrate—and your leadership is critical here—this is not acceptable any longer. The truth is, we'll find a way, at the local government, to deal with this. If, in fact, we don't get help, we will find a way.

If you want the goods to move freely, and you want more velocity and more goods—larger amounts at greater speeds, if we all work together, we can make that happen. If we try to each protect our own little self-interest here, it's not going to happen, it'll be tied up in litigation, and it'll be tied up in very clever ways in which local governments and State governments will find ways to do it. You know, I would try to just simply tell someone who's worried about economic activity that the best economic activity is when you link arms and say, "We're going to make sure that we have economic activity, but we're going to protect public health, as well."

Senator BOXER. You're so right. That was the reason that the national legislation is so key, because—and what was interesting—when I wrote it, I went to every single Senator who represents, you know, a port State, and at first they were a little, "What does this mean to my port?" Then they recognized that—exactly what you said, that we are in this together, and we need to protect the population, and it makes no sense to have this patchwork quilt.

So, believe me, when I have you go back there, it won't be to talk to Steve Johnson. I will take that responsibility onto my own shoulders. It will be—he's the administrator of EPA—it will be, really, to talk to colleagues on both sides of the aisle, because I think that's where we need to move.

Mayor Villaraigosa, what are your top recommendations for Federal action with respect to port pollution?

Mr. VILLARAIGOSA. Well, first of all, let me correct, or at least provide my own assessment. I wouldn't describe you as "short." I would describe you as someone who has the courage of a lion.

Senator BOXER. Oh, thank you.

Mr. VILLARAIGOSA. I've known you for 20 years. Not just on the issue of the environment, on the issue of civil rights, on the issue of jobs, homeland security, whatever it is, you have always been there, speaking out in a way that I think sets you apart. So——

Senator BOXER. Thank you, Mayor.

Mr. VILLARAIGOSA [continuing]. Stop with the "short" jokes.

Senator BOXER. Well, you know.

Mr. VILLARAIGOSA. With respect to—look——

Senator BOXER. "Short" jokes.

Mr. VILLARAIGOSA. I mean, I think we need a partnership. I said that, initially. I mean, the fact that—as Mayor Foster has indicated—that this administration is stonewalling the implementation of a MARPOL—the MARPOL. Treaty—is unacceptable. The fact that virtually—and I don't say this, by the way—we've had discussions about this—I don't say this from a partisan—because here in the State, we have a Governor who has supported many very important significant environmental initiatives. I say this from the fact that, you know, for the last decade the Congress has been missing in action. This Administration, since its inception, has been absolutely absent as a partner on the issue of global warming, on the issue of climate change overall, and certainly on this issue of port—you know, cleaning up our ports.

So, what do we need, specifically? We need a partnership. We need to implement this bill. We need the funds to do it. I mean, Mayor Foster said that the city—the Ports of Long Beach and Los Angeles are committed to a local container fee. We're also looking at the possibility of a State-generated fee, as well, on containers. But we need Federal support. This Government—this Administration has been absolutely absent in infrastructure investment for our highways, for our roads, our bridges, as we've seen recently. You know, those kinds of investments in infrastructure are critical. We're engaging in, you know, "cold ironing," here, on-dock rail. The opportunity to partner with the Federal Government to help fund some of those efforts is something that we certainly would welcome, and we would hope that, with your leadership and a new administration, we might be able to get that.

Senator BOXER. Thank you, Mayor.

My last question is to Mary Nichols. One time not too long ago, you were the head of EPA's air pollution office. It was under the Clinton administration. If you were there now—and how we wish it—what actions would you be taking now to reduce port pollution? What steps would you take?

Ms. NICHOLS. Well, I would be moving forward to adopt, at the national level, what the local Air Quality Management District and the State of California are already doing.

Senator BOXER. Right.

Ms. NICHOLS. There's a whole series of measures there, including the one that we're discussing today for the oceangoing vessels. But I would look at the ports in a more comprehensive manner, because around the country I think there's finally recognition that you need

to take a look at these institutions and not just go one piece of equipment or one source at a time, but really look at the overall economic entity that is a port, and try to figure out how to bring the levels of pollution down to acceptable levels. The other thing that I would be doing—and I—again, I guess we're picking on the administrator of EPA, but I'm going to add a little fuel to the fire—I was in Fresno, 2 days ago, for a meeting with the administrator, and, before I went into the meeting, I stood out on the sidewalk with a large group of citizen activists, many of them representing the organizations that you referred to at the beginning of your remarks here today, Madam Chair. Those groups were not allowed to meet with him. They weren't invited to the meeting. He came to their community and did not visit the Superfund site, did not visit any of the hotspot areas in the community. He was in a closed meeting, only with representatives of government and business. Now, I'm one of those representatives of government, myself, so obviously I was there to talk to him about the problem, and appreciate the fact that he was interested in the air quality issues in the San Joaquin Valley. But it's the same problem. If you don't go into the communities, maybe you just miss some of the sense of urgency when——

Senator BOXER. Right.

Ms. NICHOLS [continuing]. When you're not talking to the real people who are affected.

Senator BOXER. No question about it. I think would go a long way.

Thank you. This has been a fantastic panel. Thank you very much.

[Applause.]

Senator BOXER. Our last panel can take their seats.

David Freeman will introduce Geraldine Knatz, Richard Steinke, Professor Avol, and Dr. John G. Miller.

All right. We're going to start right out, because I've got time issues. So, we're going to go right to David Freeman, our Honorable David Freeman, who will introduce Dr. Geraldine Knatz. Just so you know, that David is the president of the Los Angeles Board of Harbor Commissioners.

I'll ask people to please settle down.

Thank you, David. Go ahead. Make sure you make—you push your mike—there you go.

STATEMENT OF DAVID FREEMAN, PRESIDENT, LOS ANGELES HARBOR COMMISSION

Mr. FREEMAN. I have two very brief comments to make.

One, I am just so happy to welcome you to this port. I have appeared before you in Washington, and I've followed your leadership on issues as far-ranging as protecting our coasts from oil drilling. If it weren't for you, there would probably be so many drills out there that we couldn't get the ships to come in. In terms of, not just environmental justice, but when the energy gougers were trying to steal all of our money, you were there, leading the fight to try to get FERC——

Senator BOXER. Thank you, David.

Mr. FREEMAN [continuing]. To do something. It's just 15 years of eyewitness to your leadership that I want to State and welcome.

In terms of these two executive directors, Mr. Steinke needs no introduction. He was Geraldine's boss at one time, and that's his claim to fame forever.

[Laughter.]

Mr. FREEMAN. I just simply wanted to say that I have observed, as the president of the L.A. Commission, how these two ports have come together for cleaning up the air and green growth. I've had the benefit of a long career, and I've seen a lot of people in action. I have never seen two organizations work together better and more effectively than Geraldine and Dick Steinke. I want to introduce them to you as real doers.

Here at Los Angeles, when we knew we had a big job to do, the mayor picked a woman to do it, and she is doing it. So, I will end my remarks with the introduction of the people that are really making it happen here.

Senator BOXER. Thank you so much, David. We appreciate all your hard work, we really do.

Dr. Knatz, do you want to start, followed by Mr. Richard Steinke? That's, respectively, the director of the Los Angeles Port, followed by the director of the Long Beach Port.

STATEMENT OF GERALDINE KNATZ, PH.D., EXECUTIVE DIRECTOR, PORT OF LOS ANGELES

Ms. KNATZ. Yes, thank you.

Senator Boxer, welcome back to the Port of Los Angeles, because I know you're no stranger to the Port.

I appreciate you inviting the Port to participate in this field hearing, and, on behalf of the entire Los Angeles Port of Harbor Commissioners, I appreciate your leadership, and that of Congresswoman Hilda Solis, in introducing S. 1499 and H.R. 2548.

Senator Boxer, I know that you are personally aware of the Port of Los Angeles efforts to bring greener measures to the maritime industry, because you've been our champion in Washington to push for the ratification of the MARPOL Annex 6 Treaty, which would allow the U.S. to establish the North American Sulfur Emission Control Area to reduce ship emissions from oceangoing vessels. Changing treaties is a long row to hoe. While the International Maritime Organization, the IMO, is an honorable organization, waiting for the IMO to make these kinds of changes is like watching a glacier move, because reducing harmful ship emissions is such a critical initiative, we need to lead the international efforts, rather than to wait for them to occur.

At the Port of Los Angeles, we are aggressively campaigning for a greener maritime industry through collaborative efforts with other ports around the world. Last December, the Port of Los Angeles, with support from the U.S. EPA, the South Coast Air Quality Management District, the U.S. Maritime Administration, and the Shanghai Municipal Port Administration Bureau hosted more than 25 Pacific Rim ports for the inaugural Pacific Ports Clean Air Collaborative Conference. This 3-day meeting here in Los Angeles was held to discuss challenges and solutions to air pollution created by port operations. At that meeting, we rolled up our sleeves, dis-

cussed technical, operational, and even business challenges that are common to all ports, in terms of trying to effect changes onsite and within the maritime industry at large. We wrapped up this—the conference with a ceremonial commitment among the participants to set future conferences so that we may continue to share intelligence about emerging technologies and best practices.

Just yesterday, we received official word from the Shanghai Municipal Port District that they will host the second meeting of these 25 ports around the Pacific Rim this November.

Sharing intelligence from port to port is especially critical, and, from our standpoint at Los Angeles, we've invested tens of millions of dollars into research to really delve into the measurement of emissions from all port—related sources, and the impact of those emissions, not only on the communities surrounding our ports, but the entire South Coast Air Basin. We have a monumental air quality problem here in Southern California, and we have mobilized a monumental effort to improve air quality by reducing port—related air emissions.

To that end, we don't see a need for other ports around the world to really recreate the wheel. Instead, we're urging ports around the world to take pages from our air quality playbook, literally. We're in the process of creating an Internet-based clean air toolbox of air emission reduction strategies that ports worldwide can use to implement their own clean air action plans.

This resource, which we've just vetted with the American Association of Port Authorities, is a focal point in our successful effort that resulted in the International Association of Port Authorities adopting a resolution calling on ports internationally to create their own clean air action plans.

We are moving ahead on all fronts. To effect change in an industry like the maritime industry, you really need to create a ruckus. You need to get people all riled up. You need to practice what you preach, and preach every chance you get. We have had to become a change agent, a catalyst, not only for other ports, but for the industry, because that is the only way we can keep the goods moving.

We need to crusade so passionately for cleaner air that it makes other countries, other ports, other businesses want to be on our side. If our efforts work, at the end of the day who will want to be the port that the dirty ships go to? This industry needs monumental changes, and the time for change is now.

International trade, especially from the Pacific Rim, is growing at an unprecedented pace, far exceeding economic projections. Over the past year alone, the amount of containers coming through the Port of Los Angeles has increased by 16 percent. By the year 2020, the Ports of Los Angeles and Long Beach are expected to handle the equivalent of 36 million 20-foot containers annually, more than twice what we're doing today.

Our prominent position in international trade, and this projected growth, creates major challenges for the port and its infrastructure, as well as major challenges in working with our international trading partners and their port facilities for seamless vessel and port operations.

But our mayor has been clear, the only way we're going to be able to accommodate the growth and continue to deliver the goods

to the State and the Nation is to grow green. One of the first significant tests of the mayor's policy will be the expansion of a major cargo shipping terminal operated by TraPac, where we're combining improvements in technology and environmental mitigation to handle two-thirds more containers than in the past, while dramatically reducing the emissions of toxic pollutants and the health—risk impacts on the surrounding communities to below the current levels. By combining new on-dock rail facility, more efficient loading cranes, onshore power for container vessels, which we call "cold ironing," along with cleaner—burning fuels and pollution-control technology, we can expand the TraPac terminal, and other terminals in the future, while reducing the health risks associated with diesel particulates.

The Port of Los Angeles is a member of the California Climate Action Registry, which requires ports to report greenhouse gas emissions from port operations. We'll be working with the California Air Resources Board to do our part in capping greenhouse gas emissions from port-related sources. As part of this effort, we believe that the TraPac EIR is also the first port environmental document, perhaps one of the first in California, to undertake a detailed assessment and provide mitigation for greenhouse gases.

Mayor Villaraigosa has already spoken about our Clean Air Bay Ports—our San Pedro Bay Ports Clean Air Action Plan, so I'm not going to go over that.

While we take pride in saying that the Joint Ports Clean Air Action Plan is a local initiative, I think one of the most impressive aspects about the plan is that it illustrates our commitment to work with the Federal EPA Region 9, the California Air Resources Board, and the South Coast Air Quality Management District. A major focus of the plan is reducing emissions——

Senator BOXER. I'm going to ask you to finish up now in the——

Ms. KNATZ [continuing]. OK——

Senator BOXER [continuing]. Next 20 seconds, if you can.

Ms. KNATZ [continuing]. OK—from oceangoing sources. That's really where your bill helps us, because your bill draws attention to the emission reduction elements of the port plan, and, in terms of diesel particulates, we need to reduce the emissions from those vessels.

So, basically, we are here to say that we support the bill. We urge you to go forward, and we believe it'll give the United States the position it needs in those international negotiations.

Thank you.

[The prepared statement of Dr. Knatz follows:]

STATEMENT OF GERALDINE KNATZ, PH.D., EXECUTIVE DIRECTOR, PORT OF LOS ANGELES

WELCOME

Senator Boxer (and members of the committee), thank you for scheduling this important congressional hearing today, and I want to welcome you back to the Port of Los Angeles, because I know you are no stranger to the Port. I appreciate you inviting me to participate in this field hearing on "The Marine Vessel Emission Reduction Act of 2007" and on behalf of the Los Angeles Board of Harbor Commissioners, I appreciate your leadership (and that of Congresswoman Hilda Solis) in introducing S. 1499 and H.R. 2548. I also want to thank Senator Dianne Feinstein for her sponsorship of this important legislation, and Representative Jane Harman for her support of H.R. 2548. The reduction of emissions from ships is a key compo-

nent of the Port's Clean Air Action Plan, which I will address in more detail in my testimony.

PORT OF L.A.'S EFFORTS TO GREEN THE MARITIME INDUSTRY

Senator Boxer, your support of the California EPA waiver bill, which will help our state and twelve other states establish greenhouse gas emissions regulation on our own without waiting for the EPA to act on our behalf, speaks to your recognition of the sense of urgency that we collectively need in order to reduce the adverse affects of air emissions that contribute to global warming. And I know that you are personally aware of the Port of Los Angeles' efforts to bring greener measures to the maritime industry because you have been our champion in Washington, D.C. to push for the ratification of the MARPOL Annex VI treaty, which would allow the U.S. to establish a North American Sulfur Emissions Control Area to reduce ship emissions from ocean going vessels.

Changing treaties is a long, long row to hoe. And while the IMO is an honorable organization, waiting for the IMO to make these kinds of changes is like watching paint dry! But reducing harmful ship emissions is such a critical initiative that it's something that we need to pursue at all levels—through local and state actions, through our elected leaders in Washington D.C., and through international treaties. But that's not all, at the Port of Los Angeles we're aggressively campaigning for a greener maritime industry through collaborative efforts with other Ports around the world. Last December, the Port of Los Angeles—with support from the U.S. EPA, the South Coast Air Quality Management District, the U.S. Maritime Administration and the Shanghai Municipal Port Administration Bureau—hosted more than 25 Pacific Rim ports for the inaugural Pacific Ports Clean Air Collaborative Conference. The 3-day meeting here in Los Angeles was held to discuss challenges and solutions to air pollution created by port operations.

At this meeting we rolled up our sleeves and discussed technical, operational and even business challenges that are common to all ports in terms of trying to affect changes on-site and with the maritime industry at large. We wrapped up the conference with a ceremonial commitment among the participants to set future conferences so that we may continue to share intelligence about emerging technologies and best practices.

Sharing intelligence from port to port is especially critical. From our standpoint at the Port of Los Angeles, we have invested tens of millions of dollars into research to really delve into the measurement of emissions from all port-related sources and the impact of those emissions not only on the communities surrounding our ports, but the entire South Coast Air Basin. We have a monumental air quality problem here in Southern California; and we have mobilized a monumental effort to improve air quality by reducing port-related air emissions. To that end, we don't see the need for other ports around the world to re-create the wheel. Instead, we are urging ports around the world to take pages from our air quality playbook—literally. For example, we are in the process of creating an Internet-based "Clean Air Tool Box" of air emission reduction strategies that ports worldwide can use to implement their own Clean Air Strategies.

This resource, which we also have just vetted with the AAPA—American Association of Port Authorities—, is a focal point in our successful efforts to get the IAPH to adopt a resolution calling on ports internationally to create Clean Air Plans that will benefit their environments.

If all these efforts sound pervasive—like we're moving on all fronts—well. . . it's because we are. You see, in order to affect change in an industry that facilitates global trade, you need to create a buzz. You need to practice what you preach, and preach every chance you get. You need to be a change agent—a catalyst not only for other ports, but for the industry. You need to crusade so passionately for cleaner air that it makes other countries, other ports and other businesses want to be on your side. And if our efforts work, at the end of the day, who will want to be the port that dirty ships go to?

This industry needs monumental changes, and the time for change is now. International trade, especially from the Pacific Rim, is growing at an unprecedented pace, far exceeding economic projections. Over the past year alone, the amount of containers coming through the Port of Los Angeles has increased by 16 percent. By the year 2020, the ports of Los Angeles and Long Beach are expected to handle the equivalent of 36 million, 20-foot containers annually—more than twice the container volume flowing through our two ports today. Our prominent position in international trade and this projected growth creates major challenges for the Port and its infrastructure as well as major challenges in working with our international trading partners and their port facilities for seamless vessel and port operations.

Mayor Villaraigosa has stated many times that he wants to grow the Port of Los Angeles, creating new jobs and economic opportunity. But the Mayor has been clear: the only way we will able to accomodate the growth and continue to deliver goods to the state and the Nation is to grow green. One of our first significant tests of the Mayor's policy will be the expansion of a major cargo shipping terminal operated by TraPac, Inc., where we are combining improvements in technology and environmental mitigation to handle two-thirds more containers than in the past while dramatically reducing the emissions of toxic pollutants and health risk impacts on the surrounding communities to below current levels. By combining new on-dock rail, fewer and more efficient loading cranes, on-shore power for container vessels (known as cold-ironing), along with cleaner-burning fuels and pollution control technologies, we can expand the TraPac terminal and other terminals in the future while reducing their negative impact on the quality of the air we breathe.

The Port of Los Angeles is a member of the California Climate Action Registry, which requires the Port to report Greenhouse Gas emissions from port operations. We will be working with CARB to do our part in capping greenhouse gas emissions from port-related sources. As part of this effort, we believe that the TraPac EIR is also the first port project environmental document perhaps even the first EIR in California to undertake an assessment and provide mitigation for Greenhouse Gases.

CLEAN AIR ACTION PLAN

Mayor Villaraigosa has already spoken about the San Pedro Bay Ports Clean Air Action Plan, so I will abbreviate my points about our local strategy to "grow green." While we take pride in saying that our joint Clean Air Action Plan is a local initiative, I think one of the most impressive aspects about the Plan is that it illustrates our commitment to work with the federal Environmental Protection Agency (EPA) Region 9, the California Air Resources Board (CARB), and the South Coast Air Quality Management District (AQMD).

The Clean Air Action Plan is an ambitious plan that will cut overall emissions in half even while we continue to grow our operations. Two strategic principles are driving our actions with regard to the Clean Air Action Plan. First, the Port believes it is essential that key infrastructure projects and public health-related environmental improvements are implemented in an integrated and coordinated fashion. The state's goods movement action plan calls for "simultaneous and continuous" improvement in goods movement infrastructure and environmental mitigation. We will make this concept a reality at the San Pedro Bay Ports. In order for the ports to realize "green growth," we will pursue a sustainable and smart strategy of investment and use the leverage we have with our customers to assure that this happens.

Second, the Port is aggressively pursuing a common goods movement action agenda with our regional partners. Along with Caltrans, SCAG, Los Angeles MTA, and other regional agencies in the Inland Empire and Orange County, we are forging a cooperative vision and strategic program to move goods more efficiently, increase capacity and address the associated public health issues in Southern California. Our solution is a regional solution. For our part, the ports are working with customers to ensure they understand the important of their contribution to not only the projects in San Pedro Bay but to regional projects as well.

A primary of the Clean Air Action Plan is reducing the emissions from ocean-going vessels arriving and departing the San Pedro Bay Ports, and tied up at berths while they transfer cargo. To reduce transit emissions, the ports will utilize a combination of operational and technology strategies targeted at vessel speed reduction, cleaner fuels in auxiliary and main engines, and integrating emission reduction technologies. Today we have two terminals at the Port of Los Angeles where ships can plug into shore-side power while at berth. We should have our cruise ship terminal AMP-ready by the end of next year. Just recently, we signed off on plans to construct an AMP connection at a third container terminal; so this is a program that we are moving forward fairly aggressively as part of the Clean Air Action Plan.

But shore-side control of vessel emissions is not enough, and that's where the Marine Vessel Emissions Reduction Act comes in. Your bill can play a very important role in our Clean Air Action Plan by helping us draw attention to the emissions reduction elements of the ports' plan as they address ocean-going vessels. In terms of diesel particulate and sulfur oxides emissions, ocean-going vessels contribute 59 percent and 90 percent, respectively of all port-related emissions. In fact, the emissions generated by one ship transiting weekly between Shanghai and Los Angeles is greater than all the emissions generated by all the sources in our port for an entire year. To that end, addressing marine vessel emissions must be a national priority.

The Marine Vessel Emissions Reduction Act goes beyond MARPOL Annex VI and puts the U.S. in the lead on establishing vessel emission reductions standards, sending a very important statement to the International Maritime Organization (IMO) that the U.S. is squarely on board with regard to managing the emissions affecting our ports and the region. It also would give the IMO more support as it works to bring all nations on board in strengthening the treaty, and it gives the U.S. EPA the backing it needs as our Nation's representative to IMO.

Ultimately, we also believe that the federal application of lower sulfur fuel requirements will give shipping lines a greater incentive to accept rather than oppose these cleaner emission standards on an international basis, and this proposed legislation provides an alternative compliance mechanism for industry innovation. We believe that comprehensive, nationwide standards benefit industry more than local standards imposed through a lease-by-lease approach we take with our customers because it levels the playing field as the shipping lines will all be obligated to switch to higher quality, lower sulfur fuel at the same time. To that end, the Port applauds your leadership in forging this aggressive standard for our Nation. It's very complementary to the ambitious steps our two local ports are taking as we move toward implementation of our Clean Air Action Plan, and that is why we have endorsed your bill.

SUMMARY AND CLOSE

In closing, we very much appreciate your coming to the Port of Los Angeles today. We are grateful for all your work on these issues, which are such a priority for us and our neighbors throughout Southern California, and we are glad to have had the opportunity to share with you how the Marine Vessel Emission Reduction Act can help our air quality and Clean Air Action Plan efforts here in Southern California.

Senator BOXER. Thank you so very much, Dr. Knatz.

Mr. Steinke.

STATEMENT OF RICHARD STEINKE, EXECUTIVE DIRECTOR, PORT OF LONG BEACH

Mr. STEINKE. Thank you, Madam Chair.

Commissioner Freeman, thank you for those comments about the cooperative spirit in which these two ports work in San Pedro Bay.

Thank you for inviting me to speak, today.

The Port of Long Beach would like to commend Senators Boxer and Feinstein and Congresswoman Hilda Solis, and the other members, for their forward-thinking legislative proposal that tackles marine vessel emissions.

As you may be aware, in 2006 the Port of Long Beach and the Port of Los Angeles embarked on an aggressive program to tackle port-related air pollution. Through a cooperative effort with the EPA, California Air Resources Board, and the South Coast Air Quality Management District, we developed what Geraldine mentioned was the Clean Air Action Plan, and that would reduce port-related air pollution by over 45 percent within the next 5 years. Significantly, it will be done during a time when port trade is expected to grow significantly, as you've heard in previous testimony.

To give you an idea of the magnitude of what that entails, the San Pedro Bay Port Complex is one of the largest port complexes in the world, as we know. We are the entry port for over 40 percent of the goods, and more than $275 billion worth of cargo passes through the ports every year. Last year, about 5,300 vessels called at the ports. We expect that figure to grow significantly in the future.

As you also know, the ports are located in the South Coast Air Quality Basin, an area that currently experiences some of the worst quality—air quality in the Nation. We must move forward aggressively to implement programs that will reduce the air-pollut-

ant burden in our communities and reduce health risks of our citizens.

Although the Clean Air Action Plan provides a roadmap for significant air quality improvements, we are not a regulatory agency, and our authority is limited. We are working closely with the EPA, Air Quality Resources Board, and AQMD to implement the regulatory programs at the local, State, and Federal level that will assist us in meeting our Clean Air Action Plan goals. The language in Senate Bill 1499 and House Bill 2548 is in lockstep with the control measures proposed for oceangoing vessels in the Clean Air Action Plan. The Port of Long Beach fully supports the Senate and the House versions.

We have taken our own action, creating new standards for oceangoing vessels, because the IMO's MARPOL Annex process is not fast enough, as you've well heard from the other people testifying today.

That said, however, oceangoing vessel emissions are a global issue and are best controlled at the Federal and international level, as opposed to the local regulation that could result in undue economic burden or individual nonattainment areas, or individual operations. The legislation will complement the oceangoing vessel measures included in our Clean Air Action Plan by requiring that oceangoing vessels use distillate or marine gas oil fuels with significantly reduced sulfur content in main and auxiliary engines. Several forward-thinking vessel carriers, including Maersk and APL, have already proven that the use of this fuel can be accomplished and is available in the open market.

The legislation also calls for EPA to set stronger standards for new-vessel engines and to utilize advanced control technologies to maximize emission reductions. This is also complementary to our measure in the Clean Air Action Plan, which calls for maximizing emission reductions from vessel engines by using advanced control technologies.

The ports are also aggressively implementing other Clean Air Action Plan measures, in addition to those already discussed. For example, we are moving forward with the design and installation of "cold ironing" infrastructure throughout the port so that vessels at berth can use shoreside electricity rather than relying on their auxiliary engines. This will immediately result in zero emissions from vessels at berth. We also continue to see great success with our Green Flag Vessel Speed Reduction Program, where vessels reduce their speed to 12 knots within 20 nautical miles of Point Fermin. By going slower, vessels use less fuel, and therefore, produce less pollution. Building on our previous success with voluntary program at the Port of Long Beach, it increased our participation from approximately 80 percent last year to 90 percent, using incentives and a Green Flag Recognition Program.

Considering the vessels calling at both San Pedro Bay ports, the Vessel Speed Reduction Program, alone, results in greater than 800 tons per year of air pollution eliminated from transiting vessels.

While we are continuing to move forward with many vessel-related strategies, we feel that the Marine Vessel Emissions Reduction Act of 2007 provides the Federal partnership and leadership needed to assist the South Coast Air Quality Basin in attaining na-

tional ambient air quality standards. This legislation will also level the playing field by providing consistent standards nationwide.

The Port of Long Beach remains dedicated to implementing innovative programs, like the Green Port Policy and the Clean Air Action Plan, designed to improve air quality. Therefore, we support the Marine Vessel Reductions Act of 2007, as proposed, and look forward to working with you as you continue to lead us in this challenge.

[The prepared statement of Mr. Steinke follows:]

STATEMENT OF RICHARD STEINKE, EXECUTIVE DIRECTOR, PORT OF LONG BEACH

Thank you for inviting me to speak today. The Port of Long Beach would like to commend Senators Boxer and Feinstein and Congresswoman Hilda Solis for their forward thinking legislative proposal that tackles Marine Vessel Emissions.

As you may be aware, in 2006, the Ports of Long Beach, and Los Angeles, embarked on an aggressive program to tackle port-related air pollution. Through a cooperative effort with the U.S. Environmental Protection Agency, the California Air Resources Board, and the South Coast Air Quality Management District, we have developed—the Clean Air Action Plan—CLEAN AIR ACTION PLAN. . . that will reduce Port related air pollution by over 45 percent within the next 5 years. Significantly, it will be done during a time when port trade is expected to grow significantly.

To give you an idea of the magnitude of what that entails, the San Pedro Bay Port complex, is one of the largest port complexes in the world. We are the entry point for over 40 percent of the goods coming into the United States. More than $275 billion worth of cargo passes through the ports every year. Last year, about 5,300 vessels called at the ports and we expect that figure to grow significantly in the future.

As you know the ports are located in the South Coast Air Basin, an area that currently experiences some of the worst air quality in the Nation. We must move forward aggressively to implement programs that will reduce the air pollutant burden in our communities and reduce health risks to our citizens.

Although, our CLEAN AIR ACTION PLAN provides a roadmap for significant air quality improvements we are not a regulatory agency and our authority is limited. We have been working closely with the EPA, CALIFORNIA AIR RESOURCES BOARD and SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT to implement regulatory programs at the local, state, and federal level that will assist us in meeting our CLEAN AIR ACTION PLAN goals.

The language in S 1499 and H 2548 is in lock step with the control measures proposed for Ocean Going Vessels in the Clean Air Action Plan. The Port of Long Beach fully supports the Senate and House proposals.

We have taken our own action, creating new standards for Ocean Going Vessels because the INTERNATIONAL MARITIME ORGANIZATION's MARPOL Annex process has not been fast enough or strong enough to meet our regional needs.

That said however Ocean Going Vessel emissions are a global issue, and are best controlled at the federal or international level, as opposed to local regulation that could result in an undue economic burden on individual non-attainment areas or individual operations.

The legislation, will compliment the Ocean Going Vessel measures included in the CLEAN AIR ACTION PLAN by requiring that OGVs use distillate or MGO fuels with a significantly reduced sulfur content in main and auxiliary engines.

Several forward thinking vessel carriers, including Maersk and APL, have already proven that use of this fuel can be accomplished.

The legislation also calls for EPA to set strong standards for new vessel engines and to utilize advanced control technologies to maximize emission reductions. This is also complimentary to our measure in the CLEAN AIR ACTION PLAN, which calls for maximizing emission reductions from vessel engines by using advanced control technologies.

The ports are also aggressively implementing other CLEAN AIR ACTION PLAN measures in addition to those already discussed. For example, we are moving forward with the design and installation of cold-ironing infrastructure throughout the port so that vessels at berth can use shore side electricity rather than relying on their auxiliary engines. This will immediately result in ZERO emissions from vessels at berth. We also continue to see great success with our Green Flag vessel speed reduction program, where vessels reduce their speed to 12 knots within 20

nautical miles of Point Fermin. By going slower vessels use less fuel and therefore produce less air pollution. Building on our previous success with this voluntary program the Port of Long Beach increased participation from approximately 80 percent last year to over 90 percent today using incentives and a "Green Flag" recognition program. Considering the vessels calling at both San Pedro Bay Ports the vessel speed reduction program results in greater than 800 tons/year of air pollution eliminated from transiting vessels.

While we are continuing to move forward with many vessel related strategies, we feel that the Marine Vessel Emissions Reduction Act of 2007 provides the federal partnership needed to assist the South Coast Air Basin in attaining the National Ambient Air Quality Standards.

This legislation will also level the playing field providing consistent standards nationwide.

The Port of Long Beach remains dedicated to implementing innovative programs like our Green Port Policy and the Clean Air Action Plan, designed to improve air quality. Therefore we support the Marine Vessel Emission Reduction Act of 2007 as proposed and—look forward to working with you to ensure that we reduce air emissions and improve air quality in the region.

Senator BOXER. Thank you so much, both of our executive directors.

We're really pleased to have a good, fair look at the impacts of air pollution on our people, so, with that in mind, Professor Edward Avol, School of Medicine, University of Southern California, followed by Dr. John G. Miller, from the San Pedro community.

STATEMENT OF EDWARD L. AVOL, PROFESSOR, SCHOOL OF MEDICINE, UNIVERSITY OF SOUTHERN CALIFORNIA

Mr. AVOL. Thank you, Madam Chair.

Senator BOXER. Professor.

Mr. AVOL. I participate in health-effects research and exposure research, and I'm one of the investigators participating in the National—in the California Children's Health Study, which is a multiyear study looking at the respiratory health development of over 11,000 California schoolchildren.

I'm here today to talk about the health effects of pollutants. There are four main points I'd like to make.

First, that air pollution health effects are measurable and substantial. There are a lot of health-effects research going on in cardiovascular and respiratory research, particularly focused on the health effects of air pollution. Our research at USC is focused on schoolchildren and the effects of air pollution as they transition through their youth into adulthood.

Every child deserves a healthy start. Every child deserves a chance to have their lungs fully develop. But, sadly, many of them don't get that chance. Our studies have shown that children that grow up in more polluted areas have slower-growing lungs, and that, after years of losing a percent or two of lung growth compared to their peers growing up in cleaner communities, children in more polluted communities have higher rates of clinically significant low lung function and a decreased ability to move air through their lungs, just because of the air that they breathe. Children with asthma who live in more polluted communities have more respiratory symptoms. These observations are important, because we know that low lung function is a predictor of respiratory disease later in life, and even of early death.

Of course, air pollution effects are not just limited to children. In adults, long-term exposure to combustion—related pollution, such

as exhaust from cars, trucks, planes, and ships, has been shown to result in increased atherosclerosis, increased heart attacks, emergency room visits, and death. Among pregnant mothers, air pollution effects have been linked to low birth weights, premature births, and some heart-related birth defects.

So, for a range of health outcomes in numerous segments of the population, the long-term effect of air pollution can be serious.

Second, I'd like to point out that the ports here account for a large portion of the pollution, as has been pointed out by other speakers this morning. Los Angeles continues to struggle to meet the national ambient air quality standards. Millions of people in our region regularly breathe what the U.S. EPA has determined to be unacceptably dirty and unhealthy air. Even with the aggressive and progressive policies with the South Coast Air Quality Management District and the State of California, the air in this basin is unlikely to meet clean air standards until 2014 for particulates, and 2023 for ozone.

Port inventories have confirmed the importance of oceangoing vessels in both port and regionwide pollutions. As you pointed out before, ships account for over 59 percent of the port particle pollution, over 36 percent of oxide of nitrogen, and over 90 percent of sulfur oxides. Across the entire basin, the port alone accounts for an eighth of all diesel pollution here, almost a tenth of all NOx, and almost half of the region's SO_2. So, these levels are too high, and they cause both primary and secondary effects.

I've talked a little bit about the health primary effects. On the secondary side, I would point out that the gaseous sulfur dioxide and the gaseous NOx that is emitted here and throughout the basin undergo chemical reactions n the air with sunlight and the other chemicals and form other air pollutants, particulates and ozone, downwind as it moves across the basin. So, the sulfur and the dirty fuels here, and the NOx emitted from fuels here, contribute to the—throughout the region to increased particles, increased haze, and increased ozone.

Though motor vehicles are undeniably a major portion of the problem here in Southern California, the ports are singularly identifiable as an important source, as well.

Point No. 3, port activities here disproportionally affect Southern California. We've talked about the ports being the largest here among the ports in the world; by far, the largest operation in the United States. We're a critical link for Pacific Rim countries, and almost half of the cargo comes through the United States—entering the United States comes through these two ports.

Accordingly, much of the goods, in terms of cargo, goes through here to the rest of the country, but much of the bad, in terms of the pollution health impacts, stay right here.

Simply put, we need the Federal Government to step up and provide increased leadership, additional funding, and adequate protection for the health of Southern Californians living near the ports.

Finally, point No. 4, pollution reduction now affects children's health now. Research from our children's health studies have shown that changes in air quality during a child's teen years can directly affect lung health. When lungs are rapidly growing, if a child moves to a more polluted area, the rate of growth generally

slows down; and if a child moves to a cleaner area, the rate of growth generally accelerates and speeds up.

What this suggests is that cleaning up the air in a child's community during the time that that child is growing can measurably change the child's rate of growth. Improved respiratory growth, we believe, improves the child's prognosis for future respiratory health.

The air quality in this region will not meet national standards for at least another 7 years for particulates, and then perhaps another 16 for ozone. Failing to do more to cleanup the air here quicker is condemning the current generation of children to lower achieved lung growth and higher risk for later respiratory disease.

We're reach responsible for ourselves and our environment, and we each have an obligation to future generations. We must ensure that the environment we leave is better than the one we inherited and the health of the next generation is not imperiled by our own behavior. As responsible mothers and fathers, we can strive for no less. As regulators, we ask that you should consider this not to be the ceiling for your objectives, but, rather, the floor.

Thank you.

[The prepared statement of Mr. Avol follows:]

STATEMENT OF EDWARD L. AVOL, PROFESSOR, DEPARTMENT OF PREVENTIVE MEDICINE, UNIVERSITY OF SOUTHERN CALIFORNIA

Good morning. My name is Ed Avol. I am a Professor in the Environmental Health Division of the Department of Preventive Medicine, at the Keck School of Medicine, at the University of Southern California (USC). I direct and participate in numerous health and exposure research studies, many funded by the National Institutes of Health, to understand the relationships between environmental exposure and human health. I am specifically interested in the effects of air pollution on children, and I am one of many investigators participating in the Children's Health Study, a multi-year investigation of the long-term effects of air pollution in over 11,000 California school children.

I appreciate the opportunity to share with you some of the current scientific research regarding the health effects of air pollution, and I am here today to speak about the health effects of pollutants associated with port operations.

There are four main points I would like to emphasize this morning:

(1) The health effects of air pollution are measurable and substantial.

(2) Port operations, specifically ocean-going vessels, account for a large portion of the pollution problem here in Southern California.

(3) Pollution and health impacts by port operations are disproportionately borne by the local region.

(4) Pollution reductions made now affect children's health now in measurable and meaningful ways.

POINT NO. 1: THE HEALTH EFFECTS OF AIR POLLUTION ARE MEASURABLE AND SUBSTANTIAL

There has been a great deal of published research in recent years on the effects of pollution on respiratory and cardiovascular health. Our main body of research has focused on school children, and the effects of air pollution on their respiratory health as they develop into adulthood.

Every child deserves a healthy start, a chance for their lungs and respiratory system to fully develop and provide them with the capacity and capability to breathe—but sadly, many children do not get that equal chance. Our studies have shown that children growing up in more polluted communities have slower-growing lungs[1, 2] and that after years of losing a percent or two of lung growth each year compared to their peers growing up in communities with cleaner air, children in more polluted communities have higher rates of clinically significant low lung function and decreased ability to move air through their respiratory system[3]—just because of the quality of the outdoor air they breathe. Children with asthma have more symptoms and respiratory problems in more polluted communities[4], and these observations are important because low lung function is a predictor for respiratory disease later in life and even early death[5, 6, 7, 8].

The documented effects of air pollution on humans are not limited to children. In adults, long-term exposure to pollutants associated with combustion exhaust (that is, energy production for power generation, and to move cars, trucks, planes, and ships) have been shown to result in increased risk for cardiovascular disease such as atherosclerosis[9, 10, 11], increased heart attacks[12], increased emergency room visits for acute health events[13], and increased rates of death[14]. Among pregnant mothers, air pollution has been linked to low-birthweight babies[15], premature births[16], and some heart-related birth defects[17]. So for a range of health outcomes in numerous segments of the population, the long-term effects of air pollution can be serious and persistent.

POINT NO. 2: PORT OPERATIONS ACCOUNT FOR A LARGE PORTION OF THE POLLUTION PROBLEM IN SOUTHERN CALIFORNIA

As you have heard from the state and regional air regulatory agencies, the Los Angeles Basin and the larger regional area continues to struggle to meet the current National Ambient Air Quality Standards (NAAQS). Millions of people in this region regularly breathe what the U.S. Environmental Protection Agency deems to be unacceptably dirty and unhealthy air. Even with the aggressive and progressive policies of the South Coast Air Quality Monitoring District and additional measures by the State of California, the air in this region is unlikely to meet the current NAAQS until after 2014 for PM and 2023 for ozone[18].

Recent inventories conducted in the Ports of Los Angeles and Long Beach have confirmed the importance of ocean-going vessels in port and regional emissions. Based on the Ports' own 2001/2002 inventories, ships account for about 59 percent of the particle pollution, 36 percent of the oxides of total nitrogen, and 90 percent of the sulfur oxides[19]. Port emissions alone account for about 12 percent of basin-wide diesel pollution, about 9 percent of total NOx, and about 45 percent of total sulfur oxides. These levels are unacceptably high, and have both direct and subtle effects. Some of the direct effects of pollutant emissions are being discussed here this morning. The subtle effects arise from the fact that gaseous sulfur oxides in the air undergo photochemical reactions resulting in increased particle sulfate, and gaseous nitrogen oxides emissions are involved in a similar photochemical transformation leading to increased ozone. Therefore, the sulfur in dirty fuels and the NOx from port emissions also contribute downwind and throughout the Southern California region to increased particle and ozone pollution. Although motor vehicles are undeniably a major contributor to much of the air pollution in Southern California, the ports, as an area source, are a singularly identifiable and important source of pollution, as well.

POINT NO. 3: POLLUTION AND HEALTH IMPACTS BY PORT OPERATIONS ARE DISPROPORTIONATELY BORNE BY THE LOCAL REGION

The ports of Long Beach and Los Angeles are among the largest in the world, and they are the largest complex (in terms of cargo boxes processed) in the United States. Southern California is a critical link for Pacific Rim countries; almost half of the total cargo entering the United States enters through these two ports. Accordingly, much of the "goods", in terms of cargo intended for the rest of the country, move through the Southern California region, but much of the "bads", in terms of pollution and health impacts, stay right here. Simply put, we need the Federal Government to step up and provide improved leadership, additional funding, and adequate protection for the health of Southern Californians and all Americans living near our Nation's seaports.

POINT NO. 4: POLLUTION REDUCTIONS MADE NOW AFFECT CHILDREN'S HEALTH NOW IN MEASURABLE AND MEANINGFUL WAYS

Published research from the Children's Health Study has shown that changes in air quality achieved during a child's teen years of lung development can directly affect lung health[20, 21]. While their lungs are rapidly growing, a child who moves to a more polluted area will generally find that their lung growth rate slows down to mimic the rate of children who have been living in the more polluted community. Conversely, a child who moves to a cleaner area will begin to grow at a faster rate, more like children who have been living in the cleaner area for longer periods of time. This suggests that cleaning up the air in a child's community during the period of that child's respiratory growth can measurably change the child's rate of lung growth. Improved respiratory growth, we believe, improves children's prognosis for future respiratory health and quality of life.

It has been noted this morning that this region's air quality will not meet current National Air Quality Guidelines for at least another 7 years for particles, and per-

haps not for another 16 years for ozone. Failing to do more at a quicker pace is akin to condemning the current generation of children to lower achieved lung growth and higher risk for later respiratory disease.

We are each entrusted to be responsible wards of our environment and to do whatever we can for succeeding generations. We must ensure that both the environment we leave is better than the one we inherited, and that the collective health of the next generation is not imperiled by our current behavior. As responsible mothers and fathers, we should strive for no less. As responsible regulators and policy makers, you should consider this to be not the ceiling for your objectives, but the floor.

Thank You.

References:

1. Gauderman WJ, McConnell R, Gilliland F, London S, Thomas D, Avol E, Vora H, Berhane, K, Rappaport EB, Lurmann F, Margolis HG, Peters JM. Association between air pollution and lung function growth in Southern California children. Am J Resp Crit Care Med162:1383–1890, 2000.

2. Gauderman WJ, Gilliland F, Vora H, Avol E, Stram D, McConnell R, Thomas D, Lurmann F, Margolis H, Rappaport E, Berhane K, Peters J. Association between air pollution and lung function growth in Southern California children: results from a second cohort. Am J Respir Crit Care Med 2002; 166(1):76–84.

3. Gauderman WJ, Avol E, Gilliland F, Vora H, Thomas D, Berhane K, McConnell R, Künzli N, Lurmann F, Rappaport E, Margolia H, Bates D, Peters J. The effect of air pollution on lung function development in children aged 10 to 18 years. N Eng J Med 2004;351:1057–67.

4. McConnell R, Berhane K, Gilliland F, London SJ, Vora H, Avol E, Gauderman WJ, Margolis HG, Lurmann F, Thomas DC, Peters JM. Air pollution and bronchitic symptoms in Southern California children with asthma. Environ Health Perspect 107(9):757–760, 1999.

5. Ashley F, Kannel WB, Sorlie P, Masson R Pulmonary function: relation to aging, cigarette habit, and mortality. The Framingham Study. An Int Med 1995; 82:739–45.

6. Bang KM, Gergen PJ, Kramer R, Cohen B. The effect of pulmonary impairment on all-cause mortality in a national cohort. Chest 1993;103:536–40.

7. Hole DJ, Watt CM, Davey-Smith G, Hart CL, Gillis CR, Hawthorne VM. Impaired lung function and mortality risk in men and women: findings from the Renfrew and Paisley prospective population study. BMJ 1996;313:711–15.

8. Ebi-Kryston KL. Respiratory symptoms and pulmonary function as predictors of 10-year motrality from respiratory disease, cardiovascular disease and all causes in the Whitehall study. J Clin Epidemiol 1988;41(3):251–60.

9. Künzli N, Jerrett M, Mack WJ, Beckerman B, LaBree L, Gilliland F, Thomas D, Hodis HN. Ambient air pollution and atherosclerosis in Los Angeles. Environ Health Perspect, 2005 Frb:113(2):201–6.

10. Miller KA, Siscovick DS, Sheppard L, Shepherd K, Sullivan JH, Anderson GL, Kaufman JD. Long-term exposure to air pollution and incidence of cardiovascular events in women. N Engl J Med 2007 Feb 1:356(5):447–58.

11. Hoffman B, S Moebus, S Mohlenkamp, A Stang, N Lehman, D Dragano, A Schmermund, M Memmesheimer, K Mann, R Erbel, K–H Jockel, and for the Heinz Nixdorf Recall Study Investigative Group. 2007. Residential Exposure to Traffic is Associated with Coronary Atherosclerosis. Circulation published online July 16, 2007, DOI: 10.1161/CIRCULATIONAHA.107693622.

12. Pope CA, Muhlestein JB, May HT, Renlund DG, Anderson JL, Horne BD. Ischemic heart disease events triggered by short-term exposure to fine particulate air pollution. Circulation 2006 Dec 5;114(23):2443–8.

13. Schwartz J, Slater D, Larson TV, Person WE, Koenig JQ. Particulate air pollution and hospital emergency room visits for asthma in Seattle. Am Rev Respir Dis 1993 Apr; 147(4):826–31.

14. Jerrett M, Burnett RT, Ma R, Pope CA, Krewski D, Newbold KB, Thurston G, Shi Y, Finkelstein N, Calle EE, Thun MJ. Spatial analysis of air pollution and mortality in Los Angeles. Epidemiology 2005 Nov:16(6):727–36.

15. Wilhelm M, Ritz B. residential proximity to traffic and adverse birth outcomes in Los Angeles County, California, 1994–1996. Environ Health Perspect, 2003 Feb; 111(2):207–16.

16. Wilhelm M, Ritz B. Local variations in CO and particulate air pollution and adverse birth outcomes in Los Angeles County, California, USA. Environ Health Perspect 2005 Sep:113(9):1212–21.

17. Ritz B, Wilhelm M, Zhao Y. Air pollution and infant death in southern California, 1989–2000. Pediatrics, 2000 Aug:118(2):493–502.
18. Draft Final Air Quality Management Plan, South Coast Air Quality Management District, May 2007. http://www.aqmd.gov/aqmp/07aqmp/07AQMP—draftfinal.html
19. San Pedro Bay Ports Clean Air Action Plan, Overview, Final 2006, Ports of Los Angeles and Long Beach.
20. Künzli, N, McConnell R, Bates D, Bastain T, Hricko A, Lurmann F, Avol E, Gilliland F, Peters J. Breathless in Los Angeles: The exhausting search for clean air. Am J Public Health 2003; 93(9):1494–9.
21. Avol EL, Gauderman WJ, Tan SM, London S, Peters JM. Respiratory effects of relocating to areas of differing air pollution levels. Am J Respir Crit Care Med 2001;164:2067–72.

Senator BOXER. Thank you, Doctor.

[Applause.]

Senator BOXER. Dr. Miller.

STATEMENT OF JOHN G. MILLER, M.D., FACEP, SAN PEDRO COMMUNITY

Dr. MILLER. I am Dr. John G. Miller, an emergency physician. I live here in the Diesel Death Zone in San Pedro. I have practiced in various emergency departments in the South Coast Air Basin for more than 30 years. Thank you for this opportunity to testify.

I'm speaking in support of this bill. I will give a clinician's perspective on why it should be enacted.

Welcome to the Diesel Death Zone. We are right here.

As demonstrated in the MATES 2 study, we have a broad swath of severe air pollution that extends from the ports inland across the air basin that adversely affects the lives and the health of over 14 million citizens. This area has come to be known as the Diesel Death Zone. Darkest areas near the ports show the highest risk of cancer from breathing air. Heart disease shows a similar pattern.

This ugly swath disproportionately affects lower-income communities and minorities in places such as Wilmington, Compton, Carson, South Central and East L.A. This map provides clear documentation of a serious environmental justice issue.

The medical literature on the effects of air pollution on human health is vast and growing. Many of the important studies were done in L.A. at USC and the UCLA School of Medicines. Many of these focus on cancer, heart attacks, strokes, chronic obstructive pulmonary disease, and asthma, which are all major killers. These killers are related to air pollution in a largely simple linear fashion, with no known lower threshold of safe exposure. More pollution means more disease, death, and cost to our society.

We estimated this region's year—2004 port-related healthcare costs at $2.55 billion, with $1.4 billion of this attributable to ship exhaust alone. That's only for 1 year. California is massively subsidizing this industry when these externalized costs are considered.

My point, however, is that real people are getting sick and dying; yet, often large foreign-owned corporations get to make maximum profits unhindered by concerns about the health of Americans. The medical costs are externalized and borne by our citizens.

Scientists have compared the level of our risk here to that of passive smoking. When you apply that risk to millions of people, the results are bad.

The first person I saw die from asthma was when I was a medicine intern at L.A. County General Hospital. On a smoggy day, a 22-year-old woman came in with severe asthma attack. She died before we could save her. It turned out that she was the sister of one of our respiratory therapists. I will never forget having to tell her sister. It keeps happening.

Recently, on a routine busy night in the ER, we got a sudden call from the paramedics. They were bringing in a 14-year-old boy in full cardiopulmonary arrest due to an asthma attack, 2 minutes away. We got as prepared as we could in 120 seconds. Soon, were in the hand-to-hand struggle with death and destruction that we do fight. This child survived, despite the severity of his condition. But in many cases, the person does not survive. When that happens, I am the person who must walk down the long hallway and sit down with the family and tell them that their loved one didn't make it. This is a very tough job. It is still as hard as it was the first time. I would like not to have to do it so often.

At 1:30 one July morning 3 years ago in the ER, I saw a 55-year-old woman complaining of left chest pain. She feared she was having a heart attack. My initial evaluation ruled out a heart attack, but, unfortunately, I found something far more ominous than a mere heart attack. Her chest X-ray showed a large tumor mass in her left chest. I feared cancer, but this lady had no risk factors for cancer, other than having breathed the air here all her life. No history of smoking, radon gas, asbestos, et cetera.

Unfortunately, my fears were proven correct by further evaluation. It was lung cancer, and it had spread to the area around her heart and to her brain. She died 6 months later. In my opinion, she died from air pollution.

Physicians are seeing increasing numbers of cases like these, where the only risk factor seems to be living in the Diesel Death Zone. In studying this, I came to realize that, if I were able to help reduce the air pollution here by even a few micrograms per cubic meter, I would save more lives than I ever did working in the ER.

Thank you for your kind attention.

[Applause.]

[The prepared statement of Dr. Miller follows:]

PREPARED STATEMENT OF JOHN G. MILLER, M.D., FACEP, SAN PEDRO COMMUNITY

Good Morning. I am Dr. John G. Miller, an Emergency Physician. I live here in the Diesel Death Zone in San Pedro. I have practiced in various Emergency Departments in the South Coast Air Basin for more than 30 years. I am certified by the American Board of Emergency Medicine and I am a Lifetime Fellow of the American College of Emergency Physicians. I was originally trained in Radiation Oncology at USC Medical Center. (Medical School-Baylor College of Medicine, Houston TX, Prof. Societies: Society of Orange County Emergency Physicians, Society for Scientific Exploration, Board of Directors: Coalition for a Safe Environment, Wilmington, CA. I was the only medical doctor on Mayor Hahn's No Net Increase Task Force).

Thank you for this opportunity to testify.

I am speaking in support of this bill. I will give a clinician's perspective on why it should be enacted. The bill addresses the ship pollution problem in a way that is workable and provides a level playing field for all West Coast ports and shippers.

The bill addresses a serious problem we have here in Southern California. The twin ports (LA and Long Beach) have been identified as the single largest unregulated source of air pollution in the South Coast Air Basin. Port related activity (ships, trucks, trains and cargo handling equipment) contributes a total of roughly 25 percent of the mass of air pollutants in the South Coast Air Basin, Angelenos

breathe the most unhealthy air in America. In a study done by the Port of Los Angeles, ship operations were shown to contribute 55 percent of port related air pollution. Thus ships are the largest source of port related air pollution. (From: Port Wide Baseline Air Emissions Inventory, Final Draft, page 26, June 2004, Port of Los Angeles, Starcrest Consulting Group.)

Large foreign owned or flagged ships have had a free ride. They are allowed to use our air as their toxic dumping site. Yet local land based businesses have been heavily regulated to prevent this. International standards for pollution from ship engines, written mostly by the shipping industry, are so lax as to be meaningless.

Welcome to the "Diesel Death Zone". As demonstrated in the MATES II study, (Multiple Air Toxics Exposure Study II, March 2000, *www.aqmd.gov*) we have a broad swath of severe air pollution that extends from the ports inland across the Air Basin that adversely affects the lives and health of over 14 million citizens.). This area has come to be known as the Diesel Death Zone. (I show the map of cancer risks due to air pollution from MATES II. Darkest areas-near the ports-show risks of cancer from breathing air of 5000 to 6000 cases per million (I show the map of cancer risks due to air pollution from MATES II. Darkest areas—near the ports—show risks of cancer from breathing air of 5000 to 6000 cases per million population. Federal Standard for this risk from one project should be less than 1 per million population, from all sources in an area should be less than 300 cases per million population.)

Attachments A: "Cancer Risks from Breathing Air-Mates II" a map of our region showing risk stratified areas. This was done by the Sierra Club from data supporting figure 5-3a page 5–10 in MATES II. This black and white figure (5–3a) is also attached but this figure merely shows the high risk areas as large black spots due to printer inadequacy. Note that risks of up to 5,800 cases per million are demonstrated.

Attachment B: "Heart Disease Deaths—1996 Communities in Los Angeles County" (Source L.A. County Dept of Health Services). This map illustrates areas with highest numbers of heart disease deaths in darker colors. It looks very similar to the Cancer risks map I just showed. I assert that some of these heart disease deaths are being caused by air pollution from the ports.

This ugly swath disproportionately affects lower income communities and people of color in places such as Wilmington, Compton, Carson, South Central and East L.A. This map provides clear documentation of a serious environmental justice issue.

The medical literature on the effects of air pollution on human health is vast and growing. Many important studies were done at USC and UCLA Schools of Medicine. It would take longer than my 5 minutes to read through even a partial list of all the adverse effects related to diesel air pollution. Cancer, heart attacks, strokes, chronic obstructive pulmonary disease and asthma are major killers (Attachment C: "Health Effects of Diesel Exhaust Air Pollution", August 28, 2003, Port of Los Angeles Port Community Advisory Committee Air Quality Group, with references from the medical/scientific literature attached). These killers are related to air pollution in a largely simple, linear fashion with no known lower threshold of safe exposure. More pollution means more disease, death, and cost to our society. (Professor Avol wilt cover some childre 's health effects in his testimony).

COSTS

Industry spokespersons have asserted that the costs of this are "unknown and unknowable". However it is possible to estimate societal costs due to ship related air pollution. The Union of Concerned Scientists estimated that the cost of "Health Incidences from diesel exhaust in 2004 in the South Coast" was $10.2 Billion! This was for only the one year they studied. (Source: *Sick of Soot, Reducing the Health Impacts of Diesel Pollution in California,* Union of Concerned Scientists, June 2004, available at *www.ucsusa.org*) Knowing that the Ports contribute 25 percent of the total pollution causing this, we get the Ports total share of the cost as $2.55 Billion. (0.25 x $10.2 Billion-$2.55 Billion). Then, knowing from the Emissions Inventory that ships contribute 55 percent of the total Port related air pollution (DPM), we find that the total health care cost from ship exhaust alone is $1.4 Billion! (0.55 x $2.55 Billion=$1.4 Billion)

That is $1,400,000,000 in health care costs to be born by our citizens!

We further crunched these numbers, comparing total port related health costs and number of ship calls. We obtained the astonishing result that it appears that each large ship call at the Ports is generating a cost to society of $315,000 to $455,000! California is massively subsidizing this industry when externalized costs are considered.

More on this can be found in *Paying With Our Health, The Real Cost of Freight Transport in California*. The Pacific Institute, June 2006 available at *www.pacinst.org*.

Another way to look at this is to use the US EPA's "value of one premature death in 2004 dollars". The value set by EPA was $6 Million per avoidable premature death. Union of Concerned Scientists estimated 1400 premature deaths from air pollution in the South Coast Air Basin in 2004. The twin Port's share of these would be 246 deaths. (0.25 of total pollution x 1400 deaths from pollution=246 deaths) The value of these would be $1,476,000,000. (246 deaths x $6 million per death = $1.476 Billion!)

These are disturbing numbers. However my point is that real people are getting sick and dying. Yet, large often foreign owned corporations get to make maximum profits unhindered by concerns about the health of Americans. The medical costs are externalized and born by our citizens.

Often we cannot absolutely say that air pollution caused an individual heart attack, stroke, cancer case, sudden death etc. (The tobacco industry used this dodge for decades!) However the epidemiologists have shown, in aggregate, air pollution is responsible for a significant fraction of the total of these cases.

I have treated cases, seen fatalities that appear to be pollution related.

In my years as an Emergency Medicine physician I have of course seen hundreds of fatal or near fatal cases of the illnesses we associate with air pollution. Some stand out in my mind. In my brief time to testify, I can share only a few cases with you.

On a routine busy night in the ER we got a sudden call from the paramedics. They were bringing in a 14-year-old boy in full cardiopulmonary arrest due to an asthma attack. Two minutes away. We got as prepared as we could in 120 seconds and soon we were in the hand-to-hand struggle with death and destruction we often fight.

This child survived despite the severity of his condition.

But in many cases, the person does not survive. When that happens, I am the person who must walk down the long hallway, sit down with the family and tell them their loved one didn 't make it. This is a very tough job. I would like not to have to do it so often. Enactment of this bill will prevent many needless premature deaths and enormous related costs in America.

More cases from my own experience:

At 1:30 one July morning 3 years ago, in the ER, I saw a 55-year-old woman complaining of left chest pain. She feared she was having a heart attack. My initial evaluation ruled out a myocardial infarction (heart attack) but unfortunately I found something far more ominous than a "mere" heart attack. Her chest x-ray showed a large tumor mass in her left chest. I feared cancer, but this lady had no risk factors for cancer other than having breathed the air here all her life (no history of smoking, radon gas exposure, asbestos exposure, second hand smoke at work). Unfortunately, my fears were proven correct by further evaluation. It was lung cancer and it had spread to the area around her heart and her brain. She died 6 months later. In my opinion she died from air pollution.

Eighteen months ago, the 48-year-old wife of one of my colleagues developed a nagging dry cough. Debbie was a fit nonsmoking, "no risk factor" person. Her workup revealed lung cancer. As 90–95 percent of lung cancer victims do, she died after a lot of suffering. It was my sad duty to prescribe morphine tablets when she ran out in her last week of life. Her funeral was attended by hundreds of mourners. I was one of them. She left behind a devastated family including one 12-year-old child with special needs who still really needs his mother. Air pollution was the most likely cause of her death.

The point here is that we are not just talking about "numbers". Real people are sick and dying. Physicians are seeing increasing numbers of cases like these where the only risk factor seems to be living in the Diesel Death Zone.

"But enactment of this bill will send the freight to other ports and destroy many jobs here!" This is one standard response from industry to any proposals that would seek to limit their ability to burn the cheapest, dirtiest fuel in their ships.

The best response to this was actually provided by the Port of Los Angeles. In a recent Draft Environmental Impact Report for a major terminal expansion/increased throughput project, the options of diversion of cargo to other West Coast ports inside and outside Southern California was considered and studied. The Port concluded that this is simply not possible because the facilities to do this simply do not exist and "are not being contemplated" by other major West Coast ports. In Southern California sufficient capacity outside Port of LA/Port of Long Beach "does not exist and cannot be constructed". According to POLA's own studies, the freight

must come through these 2 ports. Put bluntly the shippers need to be able to use these two ports more than the ports need the freight from the shippers.

(See Attachment D: Sections 2.5.2.1 and 2.5.2.2 from "Berths 136–147 Container Terminal Draft Environmental Impact Statement (EIE) Environmental Impact Report EIR", June 2007. Prepared by Port of Los Angeles, US Army Corps of Engineers and SAIC)

"But it will cost way too much. Consumers costs will go way up!" We are indebted to the Maersk Corporation for proactively adopting the use of low Sulfur diesel fuel in ships serving their Pier 400 facility, demonstrating that the cost of this is not prohibitive. Additionally, Mr. Jesse Marquez with Coalition for a Safe Environment calculated that even if costs went up $100 per container (an increase of $200.000 in a 2000 container ship) the net increase in cost to consumers for, say a pair of sneakers, would be 0.25 cents!

Thus measures such as this legislation that may increase some costs to shippers but protect the health of Americans should be acceptable, enacted, and enforced.

Thank you for your kind attention to my testimony.

Attachments A A

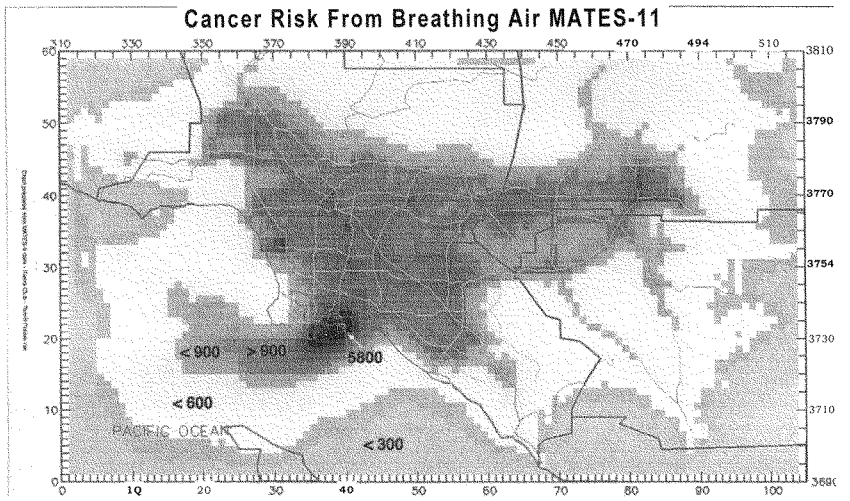


Chart of estimated risk up to indicated number of cases of cancer per million population in a 70 year lifetime.

Attachment A

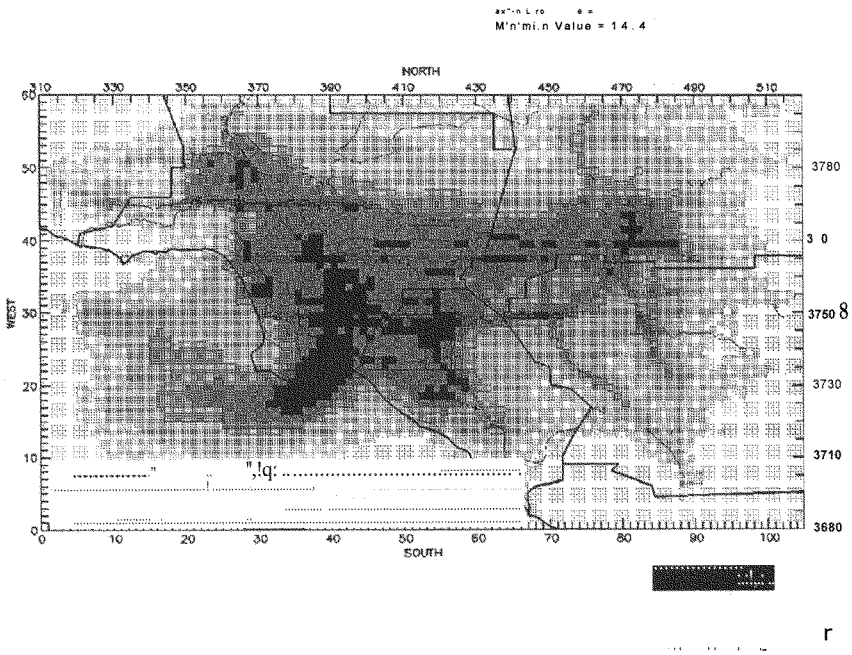
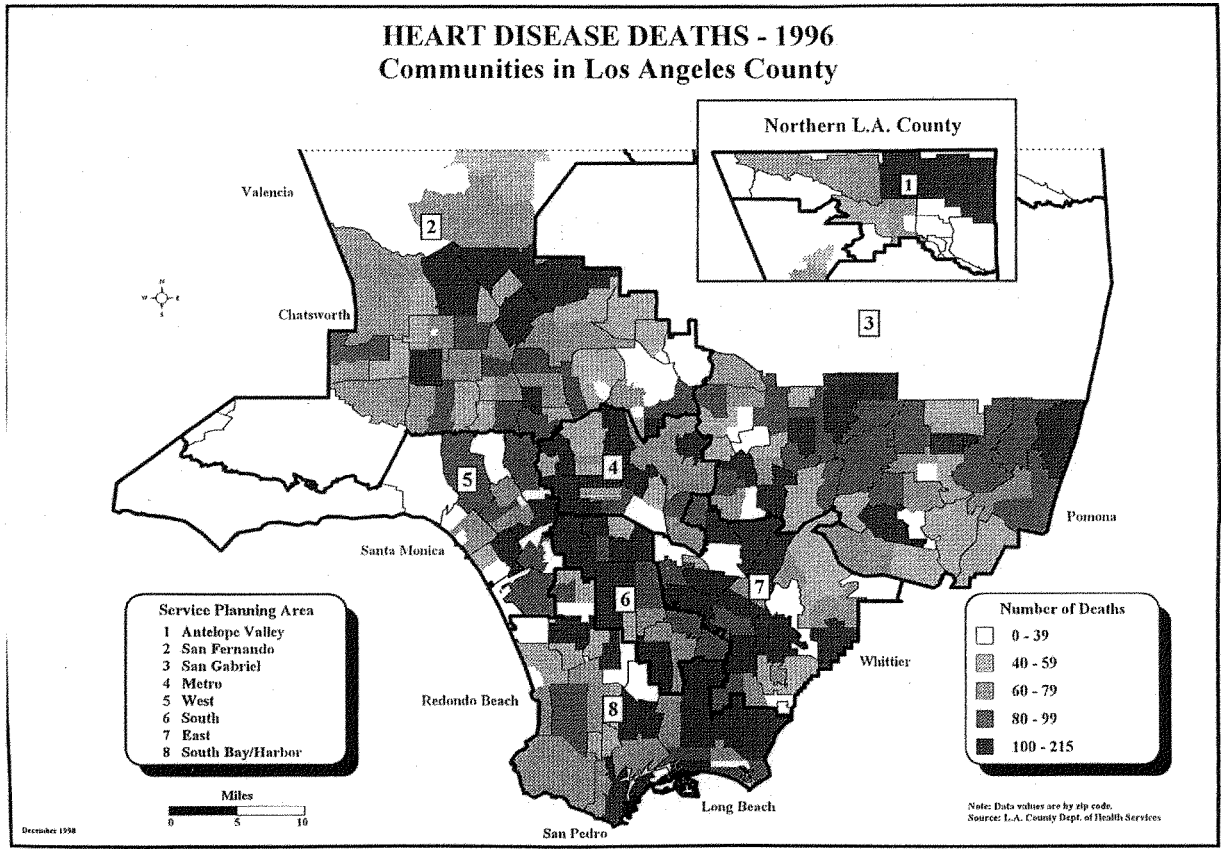


Figure 5-3a. Model estimated risk for the Basin
(Number in a million, all sources)


HEART DISEASE DEATHS - 1996
Communities in Los Angeles County
Northern L.A. County
1
2
3
4
5
6
7
8
Valencia
Chatsworth
Santa Monica
Redondo Beach
San Pedro
Long Beach
Whittier
Pomona
Service Planning Area
1 Antelope Valley
2 San Fernando
3 San Gabriel
4 Metro
5 West
6 South
7 East
8 South Bay/Harbor
Miles
0 5 10
December 1998
Number of Deaths
0 - 39
40 - 59
60 - 79
80 - 99
100 - 215
Note: Data values are by zip code.
Source: L.A. County Dept. of Health Services

HEALTH EFFECTS OF DIESEL EXHAUST AIR POLLUTION

August 28, 2003

Document prepared by the Environmental Subcommittee/Air Quality Group to be forwarded to the Board of Harbor Commissioners (BOHC) via PCAC

Subject: Committees Findings Regarding Health. Effects of Diesel Exhaust Air Pollution; with Concern for Port Activity Related Sources

EACKGRO[T_ND; Since its inception the Environmental Subcommittee has been considering the issue of the multiple health effects that have been associated with diesel exhaust air pollution. Experts hired by the Committee, including Professor Avol, Mr. Howek=p, and experts from ARB and AQMD have frequently provided input. These experts also found data for the cornnittee's review from sources they had available. Dr. John G. Miller, an Environmental Sub-committee member and PCAC member cited and provided multiple references from the medical, epidemiologic and scientific literature on this topic. Members of the public have expressed cortcejms *at many* committee *meetings,*

The committee has learned that the Health Risk Assessment Study (HRA) to be completed. by consultants hired by the POLA, as one of the Seven Studies mandated by the BOHC, is not scheduled to begin until possibly January 2004, depending on when the (as yet incomplete) Air Emissions Inventory is finished. The completion date for the HRA is currently estimated to be late 2004/early 2005.

Environmental Sub-committee members have heard extensive input from the public requesting no further delay in conveying what it has found to date to the BOHC. This input came both at meetings and in the community. The committee funds no reason for further delay in revealing its findings to date.

The committee notes that Port-related activities, including those that occur off Port property but as a result of Port operations, have been identified by the South Coast AQMD as the largest single unregulated contributor to area-wide air pollution.

Port operations (shipping, loading/unloading, and transport of product) require the use of significant amounts of fuel. Currently most of the trucking, locomotive, and off-road yard operations in and supporting the Port use diesel fuel. The combustion of diesel fuel creates high concentrations of very small particles (numerically, over 90% are less than 1 micron in diameter) and nitrogen oxides. Regional air studies have demonstrated that Port-related emissions are transported widely in the air across the South Coast Air Basin, from the harbor area to Riverside/San Bernardino and beyond. These pollutants have been associated directly (through direct exposure by breathing these pollutants from the air) and indirectly (through participation in photochemical reactions in the air, and breathing the products of these reactions, such as ozone) with a number of health effects.

Attachment C

The Sub-committee *has* learned that *some of* these health effects *occur even when* concentrations of particulates are just one quarter of the Federal limit for outdoor air.

Summary of Health Effects that have been related to Diesel Exhaust Air Pollution as identified and brought to the committee's attention:

1. Prenatal and Perinatal effects
   - A. Intrauterine growth retardation
   - B. Elevated incidence of low birth weight infants
   - C. Increased incidence of spontaneous miscarriage
   - D, Increased incidence of respiratory cause of deaths in newborns
   - E. Elevated incidence of serious birth defects
   - F. Increases in sudden ir ▸ fant death syndrome (SIDS)

2. Childhood effects
   - A, Diminished lung growth in children (with unknown long terra effects on the individual)
   - B. *Development of asthma in* children involved in active sports
   - C. Exacerbations of existing asthma
   - D. Elevation of incidence of asthma in children and teenagers. (an ongoing worldwide phenomenon)
   - E. Increases in incidence of bronchitic symptoms
   - F, Loss of days from school attendance due to respiratory symptoms
   - G. Potentiation (enhancement) of allergic effects of known allergens such as ragweed pollen when individual is exposed to diesel particles and the allergen concomitantly_

3, Adulthood
   - A. Elevated incidence of lung cancer in a linear relationship with progressive increases in fine particle (Pm 2.5) air pollution (The category Pm 2,5 includes the particles less than 1 micron in size.)
   - B. Elevated incidence of myocardial infarctions (heart attacks)
   - C. Elevated incidence of mortality from cardiovascular causes {heart attacks and strokes)
   - D Triggering of myocardial infarctions associated with spikes in Pm. 2.5
   - E Elevation of cardiopulmonary deaths in a linear relationship with increases in Pm 2.5
   - F. Significant elevations in all cause mortality" associated with increases in Pm2.5
   - G. Increased incidence of bronchitic symptoms
   - H. Chronic abstractive pulmonary disease (COPD): increased incidence, prevalence, and exacerbations of existing disease.
   - I. Fatal exacerbations of COPT?
   - J. Exacerbations of asthma leading to time off work, emergency room visits and hospitalizations

Attachment C

K. Approximately L5 times elevation in the smoking adjusted *incidence of* lung cancer in workers occupationally exposed to diesel exhaust versus the smoking adjusted relative *risk* baseline incidence of lung cancer in similar non-exposed populations.
L. Chronic exposure to particulate pollution shortens lives by one to three years
M. Higher concentrations of particulate air pollution has been linked to low *heart rate variability, a risk factor for* heart *attacks. Association is stranger for* people with pre-existing cardiovascular conditions.
N. Mitochondrial damage in cells. (All age groups)
0, Airway i am m ato7 changes (all age groups)
P. Damage to and death of alveolar and airway m.acrophages,(ali age groups)

This is a brief overview of an extensive and growing body of knowledge. These findings were developed through many avenues of research including but not limited to: *epide_miologic studies,* clinical studies-retrospective *and* prospective, autopsy studies, animal studies, cellular biology studies, and Government agency investigations. There has been worldwide scientific participation in *research on the links* between diesel exhaust air pollution and human health.

This body of knowledge is constantly evolving, with many new pieces of information having been published or brought to light since the inception of Environmental *Committee* Subeommittee/Air Quality Group, The committee notes that as this an evolving body of knowledge, in many areas further studies are needed.

The Committee finds *sufficient evidence to* warrant immediate aggressive action by POLA and its tenants to reduce *the* measurable levels of local and Air Basin wide diesel *exhaust air* pollution *due to Port related activities.*

Richard Havenick
Chairman, Air Quality Group

Attachment C

References Regarding the Realty Effects of Diesel Exhaust Air Pollution
July 25, 2003

1. Health Assessment Document For Diesel Engine Exhaust (United States Environmental Protection Agency, EPA/60018-901057F, May 2002).

2. Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates. (State of California, California Environmental Protection Agency, Air Resources Board) Staff Report: Initial Statement of Reasons for Proposed Rule Making. Release Dane: May 3, 2002.

3. Selected Key Studies on Particulate Matter in Health: 1997-2001 American Lung Association, Updated March 5, 2001. -

4. - Findings of the Scientific Review Panel on "THE REPORT ON DIESEL EXHAUST" as adopted at the Panel's April 22, 1998 Meeting.

5. "Lung Cancer, Cardiopulmonary Mortality, and Long Term Exposure to Particulate Fine Matter Air Pollution" Journal of the *American Medical* Association, March 6th, 2002, Volume 287, No. 9.

6. "Occupational Exposure to Diesel Exhaust and Lung Cancer: A Meta-Analysis" American Journal of Public Health, 1999; 89:1009-1017.

7. "The Concentration-Response Relation between PM2.5 and Daily Deaths" Environmental Health Perspectives, Volume 110, Number 10, October 2002. (Harvard School of Public Health).

8. "Increased Particulate Air Pollution and the Triggering of Myocardial Infarction." Circulation, June 12, 2001. (Harvard School of Public Health and the American Heart Association).

9. "The Effects of Air Pollution on Infant Mortality Appears *Specific for* Respiratory Causes in the Post neonatal Period." Epidemiology, November 1999, Volume 10, Number 6.

10. Editorial "Air Pollution Kills Babies..." Epidemiology, November 1999, Volume 10, number 6.

11. "Ambient Air Pollution and the Risks of Birth Defects in Southern California" American Journal of Epidemiology, Volume 155, Number 1, 2002. (Research done at UCLA).

12. "Association between Air Pollution and Intrauterine Mortality in Sao Paulo, Brazil" Environmental Health Perspectives, Volume 106, Number 6, June 1998,

13. "Respiratory *Effects* of Relocating to Areas of Differing Air Pollution Levels" American Journal of Respiratory and Critical Care Medicine, Volume 164, pp2067-2072, 2001. (Research done at USC)

14. "The Effects of Ambient Air Pollution on School Absenteeism due to Respiratory Illnesses" Epidemiology, January 2001, Volume 12, Numberl. (Research done at USC).

15. "Air Pollution and Infant Mortality in Mexico City" Epidemiology, March 1999, Volume 10, Number 2.

16, "Air Pollution and Bronchitis Symptoms in Southern California Children witi? Asthma" Environmental health Perspectives, Volume107, Number 9, September 1999.

17. "Association between Air Pollution and Lung Function Growth in Southern California Children" American Journal of Respiratory and Critical Care Medicine, Volume 162, 2000.

18. "Global Increases in Allergic Respiratory Disease: The Possible Role of Diesel Exhaust Particles" Annals of Allergy, Asthma and Irnrr~unology.. Volume 77, October 1996. (Research d9ne at UCLA).

19, "Association of very Low Birth Weight with Exposures to Environmental *Sulfur* Dioxide and Total Suspended Particulates" American Journal of Epidemiology, Volume 151, Number 6, 2000,

20. "From Asthma to AirBeat: Community driven monitoring of fine particulates and black carbon in Roxbury, Massachusetts." Environmental Health Perspectives, April 2002, Volume 110, Supplement 2: 297-301.

21. "Inhalation of Fine Particulate Air Pollution and Ozone causes Acute Arterial Vasoconstriction in Healthy Adults" Circulation, 2002, April 2; 105 (13): 1534-1536.

22. "A Three-Way Link may exist among Air Pollution, Allergy Sensitization and Reactivity, and Asthma" Allergy 1998; 53:335-45. (Cited in "Update in Allergy and Immunology", Annals of Internal Medicine, 1 February, 2000, Volume 132, Number 3.

Attachment D

10, Harry Bridges Boulevard relocated to provide additional container storage area

11. Development and operation of a smaller terminal; and

12. Alternative designs for the Harry Bridges Buffer Area.

2.5.2.1 Use of Other West Coast Ports Outside Southern California

In this alternative, the Port of Los Angeles would not expand and improve the Berths 136-147 Container Terminal, but would instead assume that the additional cargo would be handled by other West Coast ports outside Southern California (i.e., Oakland, Seattle, Tacoma, Portland, Vancouver, B.C.). It is important to note that the Port of Los Angeles has no authority to direct cargo to ports outside its jurisdictional boundaries; it could only refuse to provide the discretionary actions necessary to increase Port capacity within its own boundaries, thus providing shippers with an incentive to route cargo to other ports. Such a course is not consistent with the Tidelands Trust or Coastal Act.

To evaluate this alternative it is important to recognize the current and expected role of the Port of Los Angeles in U.S. foreign trade. Between 40% and 45% of the all containers handled by U.S. ports come through the Port of Los Angeles (Journal of Commerce 2007) and more than 75 percent of all containers shipped through West Coast ports flow though the Ports of Los Angeles, Long Beach, and Oakland because those ports have the specialized facilities and navigational channels of sufficient depth to safely accommodate the new generation of deep-draft ships (USACE and LARD 2000). The value of goods handled by the Ports of Los Angeles and Long Beach was a combined $240.5 billion in 2004, whereas the value of goods handled by the Ports of Oakland, Seattle, and Tacoma was a combined $63.9 billion in the same year (MARAD 2005a). As described in Section 1.1.3, the large population base of the Southwestern U.S. and the strong transportation connections to the rest of the country make the two San Pedro Bay ports prime destinations for foreign trade.

Assuming that or porn could handle the large increases in cargo expected to come to Los Angeles would ignore the physical situation and expansion potential of t h e parts. An assumption of the cargo demand projections *for the Ports of Los Angeles* and Long Beach, assumed a portion of the cargo would be going to the other West Coast ports. A survey of West Coast ports prepared for the Deep Draft Navigation Improvements Project showed that other West Coast ports are not capable of absorbing additional cargo diverted from the Port of Los Angeles without constructing new facilities (USACE and LARD 1992). The 1992 survey is still valid: a number of new studies on goods movement in California, such as the governor's Goods *Movement Action Plan* (CalEPA and the Business, Transportation, and Housing Agency 2005), have identified capacity constraints at other West Coast ports. Other major West Coast ports are already operating at or new current physical capacity, have recently expanded, or are undergoing expansion to accommodate their projected future throughput demand. Although small temporary diversions from the Port of Los Angeles can be accommodated, large permanent diversions would require further physical improvements at other major West Coast ports, improvements that are not being contemplated by those ports.

The improvements that would be necessary to allow the other West Coast parts to accommodate additional cargo beyond their current forecasts would result in environmental impacts similar to or more intensive than those of the proposed Project (LARD 1997a). The use of other ports would not meet the objectives of the proposed Project to accommodate the projected growth in the volume of containerized cargo through the Port in accordance with its legal mandates (see section 2.3.1). For that *reason, this* alternative is considered infeasible.

2.5.2.2 Expansion *of Terminals* Within *Southern* California *but Outside of the* dos *Angeles Harbor District*

In this alternative, new container terminal facilities would be constructed at other Southern California ports (Long Beach, San Diego, Port Hueneme), or a new port would be established, to accommodate future increases in cargo volumes that would otherwise be handled by the proposed Project. As with the previous alternative, the Port of Los Angeles has no authority to direct cargo to ports outside its jurisdictional boundaries; it could only refuse to provide the discretionary actions necessary to increase Port capacity within its own boundaries, which is not consistent with the Tidelands Trust or Coastal Act.

The chief candidate among existing ports to accommodate Los Angeles' share of cargo is the Port of Long Beach because that port is similar in size to the Port of Los Angeles and has modern container terminals and deep water access. However, the Port of Long Beach faces future increases in cargo volumes similar to those forecast for Los Angeles (see section 1.1.3). To meet that demand, Long Beach has embarked on its own program of modernization and expansion of container terminals. Furthermore, even if the proposed additional 67 acres of container terminal could be located in the Port of Long Beach, it would have very similar impacts to those of the proposed Project at the Port of Los Angeles, given the proximity of the two ports. Other existing ports in Southern California. do not have the water depths, wharf facilities, backland capacity, car transportation connections to accommodate a large amount of container cargo (USACE and LAHD 1992).

The option of building a new port to accommodate additional cargo is infeasible because the California Coastal Act does not allow the development of new commercial ports outside the existing port districts. The standards for master plans, contained in Chapter 8 of the Coastal Act, require environmental protection while expressing a preference for port-dependent projects. The logic behind this policy is that it is environmentally and economically preferable to concentrate commercial shipping activities and other maritime industrial facilities in existing ports rather than siting them up and down the coastline.

Using other Southern California ports to accommodate future Port of Los Angeles cargo volumes is infeasible because sufficient capacity does not exist and cannot be constructed. Therefore, this alternative was eliminated from further consideration in this EISIEIR.

Attachment C

References Regarding the Health Effects of Diesel Exhaust Air Pollution
July 25, 2003

1. Health Assessment Document For Diesel Engine Exhaust (United States Environmental Protection Agency, EPA/600/8-90/057F, May 2002).

2. Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates. (State of California, California Environmental Protection Agency, Air Resources Board) Staff Report: Initial Statement of Reasons for Proposed Rule Making. Release Date: May 3, 2002.

3. Selected Key Studies on Particulate Matter in Health: 1997-2001 American Lung Association, Updated March 5, 2001.

4. Findings of the Scientific Review Panel on "THE REPORT ON DIESEL EXHAUST" as adopted at the Panel's April 22, 1998 Meeting.

5. "Lung Cancer, Cardiopulmonary Mortality, and Long Term Exposure to Particulate Fine Matter Air Pollution" Journal of the American Medical Association, March 6th, 2002, Volume 287, No. 9.

6. "Occupational Exposure to Diesel Exhaust and Lung Cancer: A Meta-Analysis" American Journal of Public Health, 1999; 89:1009-1017.

7. "The Concentration-Response Relation between PM2.5 and Daily Deaths" Environmental Health Perspectives, Volume 110, Number 10, October 2002. (Harvard School of Public Health).

8. "Increased Particulate Air Pollution and the Triggering of Myocardial Infarction." Circulation, June 12, 2001. (Harvard School of Public Health and the American Heart Association).

9. "The Effects of Air Pollution on Infant Mortality Appears Specific for Respiratory Causes in the Post neonatal Period." Epidemiology, November 1999, Volume 10, Number 6.

10. Editorial "Air Pollution Kills Babies..." Epidemiology, November 1999, Volume 10, number 6.

11. "Ambient Air Pollution and the Risks of Birth Defects in Southern California" American Journal of Epidemiology, Volume 155, Number 1, 2002. (Research done at UCLA).

A Hachment C

12. "Association between Air Pollution and Intrauterine Mortality in Sao Paulo, Brazil" Environmental Health Perspectives, Volume 106, Number 6, June 1998.

13. "Respiratory Effects of Relocating to Areas of Differing Air Pollution Levels" American Journal of Respiratory and Critical Care Medicine, Volume 164, pp2067-2072, 2001. (Research done at USC)

14. "The Effects of Ambient Air Pollution on School Absenteeism due to Respiratory Illnesses" Epidemiology, January 2001, Volume 12, Number1. (Research done at USC).

15. "Air Pollution and Infant Mortality in Mexico City" Epidemiology, March 1999, Volume 10, Number 2.

16. "Air Pollution and Bronchitic Symptoms in Southern California Children with Asthma" Environmental health Perspectives, Volume107, Number 9, September 1999.

17. "Association between Air Pollution and Lung Function Growth in Southern California Children" American Journal of Respiratory and Critical Care Medicine, Volume 162, 2000.

18. "Global Increases in Allergic Respiratory Disease: The Possible Role of Diesel Exhaust Particles" Annals of Allergy, Asthma and Immunology, Volume 77, October 1996. (Research done at UCLA).

19. "Association of very Low Birth Weight with Exposures to Environmental Sulfur Dioxide and Total Suspended Particulates" American Journal of Epidemiology, Volume 151, Number 6, 2000.

20. "From Asthma to AirBeat: Community driven monitoring of fine particulates and black carbon in Roxbury, Massachusetts." Environmental Health Perspectives, April 2002, Volume 110, Supplement 2: 297-301.

21. "Inhalation of Fine Particulate Air Pollution and Ozone causes Acute Arterial Vasoconstriction in Healthy Adults" Circulation, 2002, April 2; 105 (13): 1534-1536.

22. "A Three-Way Link may exist among Air Pollution, Allergy Sensitization and Reactivity, and Asthma" Allergy 1998; 53:335-45. (Cited in "Update in Allergy and Immunology", Annals of Internal Medicine, 1 February, 2000, Volume 132, Number 3.

10. Harry Bridges Boulevard relocated to provide additional container storage area;
11. Development and operation of a smaller terminal; and
12. Alternative designs for the Harry Bridges Buffer Area.

2.5.2.1 Use of Other West Coast Ports Outside Southern California

In this alternative, the Port of Los Angeles would not expand and improve the Berths 136-147 Container Terminal, but would instead assume that the additional cargo would be handled by other West Coast ports outside Southern California (i.e., Oakland, Seattle, Tacoma, Portland, Vancouver, B.C.). It is important to note that the Port of Los Angeles has no authority to direct cargo to ports outside its jurisdictional boundaries; it could only refuse to provide the discretionary actions necessary to increase Port capacity within its own boundaries, thus providing shippers with an incentive to route cargo to other ports. Such a course is not consistent with the Tidelands Trust or Coastal Act.

To evaluate this alternative it is important to recognize the current and expected role of the Port of Los Angeles in U.S. foreign trade. Between 40% and 45% of the all containers handled by U.S. ports come through the Port of Los Angeles (Journal of Commerce 2007) and more than 75 percent of all containers shipped through West Coast ports flow though the Ports of Los Angeles, Long Beach, and Oakland because those ports have the specialized facilities and navigational channels of sufficient depth to safely accommodate the new generation of deep-draft ships (USACE and LAHD 2000). The value of goods handled by the Ports of Los Angeles and Long Beach was a combined $240.5 billion in 2004, whereas the value of goods handled by the Ports of Oakland, Seattle, and Tacoma was a combined $63.9 billion in the same year (MARAD 2005a). As described in Section 1.1.3, the large population base of the Southwestern U.S. and the strong transportation connections to the rest of the country make the two San Pedro Bay ports prime destinations for foreign trade.

Assuming that other ports could handle the large increases in cargo expected to come to Los Angeles would ignore the physical situation and expansion potential of those ports. An assumption of the cargo demand projections for the Ports of Los Angeles and Long Beach, assumed a portion of the cargo would be going to the other West Coast ports. A survey of West Coast ports prepared for the Deep Draft Navigation Improvements Project showed that other West Coast ports are not capable of absorbing additional cargo diverted from the Port of Los Angeles without constructing new facilities (USACE and LAHD 1992). The 1992 survey is still valid: a number of new studies on goods movement in California, such as the governor's *Goods Movement Action Plan* (CalEPA and the Business, Transportation, and Housing Agency 2005), have identified capacity constraints at other West Coast ports. Other major West Coast ports are already operating at or near current physical capacity, have recently expanded, or are undergoing expansion to accommodate their projected future throughput demand. Although small temporary diversions from the Port of Los Angeles can be accommodated, large permanent diversions would require further physical improvements at other major West Coast ports, improvements that are not being contemplated by those ports.

The improvements that would be necessary to allow the other West Coast ports to accommodate additional cargo beyond their current forecasts would result in environmental impacts similar to or more intensive than those of the proposed Project (LAHD 1997a). The use of other ports would not meet the objectives of the proposed Project to accommodate the projected growth in the volume of containerized cargo through the Port in accordance with its legal mandates (see section 2.3.1). For that reason, this alternative is considered infeasible.

2.5.2.2 Expansion of Terminals Within Southern California but Outside of the Los Angeles Harbor District

In this alternative, new container terminal facilities would be constructed at other Southern California ports (Long Beach, San Diego, Port Hueneme), or a new port would be established, to accommodate future increases in cargo volumes that would otherwise be handled by the proposed Project. As with the previous alternative, the Port of Los Angeles has no authority to direct cargo to ports outside its jurisdictional boundaries; it could only refuse to provide the discretionary actions necessary to increase Port capacity within its own boundaries, which is not consistent with the Tidelands Trust or Coastal Act.

The chief candidate among existing ports to accommodate Los Angeles' share of cargo is the Port of Long Beach because that port is similar in size to the Port of Los Angeles and has modern container terminals and deep water access. However, the Port of Long Beach faces future increases in cargo volumes similar to those forecast for Los Angeles (see section 1.1.3). To meet that demand, Long Beach has embarked on its own program of modernization and expansion of container terminals. Furthermore, even if the proposed additional 67 acres of container terminal could be located in the Port of Long Beach, it would have very similar impacts to those of the proposed Project at the Port of Los Angeles, given the proximity of the two ports. Other existing ports in Southern California do not have the water depths, wharf facilities, backland capacity, or transportation connections to accommodate a large amount of container cargo (USACE and LAHD 1992).

The option of building a new port to accommodate additional cargo is infeasible because the California Coastal Act does not allow the development of new commercial ports outside the existing port districts. The standards for master plans, contained in Chapter 8 of the Coastal Act, require environmental protection while expressing a preference for port-dependent projects. The logic behind this policy is that it is environmentally and economically preferable to concentrate commercial shipping activities and other maritime industrial facilities in existing ports rather than siting them up and down the coastline.

Using other Southern California ports to accommodate future Port of Los Angeles cargo volumes is infeasible because sufficient capacity does not exist and cannot be constructed. Therefore, this alternative was eliminated from further consideration in this EIS/EIR.

Senator BOXER. Well, this if very difficult, to speak after your eloquence, Doctor. It is my job to make sure that your words are heard back in Washington. So, I can assure you they will be. Would you be willing to come back and testify?

Dr. MILLER. Yes, ma'am. I came here to speak for the people who have suffered this, and——

Senator BOXER. I understand.

Dr. MILLER [continuing]. Of course I'd be willing to——

Senator BOXER. Good.

Dr. MILLER [continuing]. Come to Washington.

Senator BOXER. Well, I'm not going to ask questions of this panel. I'm going to make some closing remarks.

I so appreciate everyone's message to me. The message has been delivered, by all of our witnesses, that air pollution at our ports is unacceptable, period. I pledge to you that I will deliver this message to my colleagues in Congress and to those in this administration, particularly at the Environmental Protection Agency. I will work with my staff very hard to pass our bill so that foreign ships—foreign ships—stop their deadly pollution.

Our people expect us to work together through all levels of government to clean up our ports, cleanup our air. My staff and I will focus on this issue in the Senate until we get this job done.

The doctor who last spoke, Dr. Miller, was so eloquent—because when you see numbers on our chart, it's one thing, but when you hear the stories, it touches your heart and your soul.

I want to thank all of your for your testimony. We have a moral responsibility to our children, and I, for one, intend to fulfill that responsibility. I want to thank you all.

This hearing stands adjourned.

[Whereupon, at 11:41 a.m., the hearing was adjourned.]

○