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MARITIME TRANSPORTATION REGULATIONS: IMPACTS ON SAFETY, SECURITY, JOBS, AND THE ENVIRONMENT, PART 2

(113–56)

HEARING

BEFORE THE

SUBCOMMITTEE ON
COAST GUARD AND MARITIME TRANSPORTATION

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

SECOND SESSION

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SUBMISSIONS FOR THE RECORD

Hon. John Garamendi, a Representative in Congress from the State of California, request to submit the following letters from:

Mary D. Nichols, chairman, California Air Resources Board, to Hon. Duncan Hunter, Hon. John Garamendi, and Hon. Janice Hahn, Representatives in Congress from the State of California, February 28, 2014 18
Christopher A. Coakley, vice president of government affairs, Saltchuk Resources, Inc., to Hon. Duncan Hunter and Hon. John Garamendi, Representatives in Congress from the State of California, March 2, 2014 21

† William Terry, president and chief executive officer, Eagle Rock Aggregates Inc., was scheduled to be a witness at the hearing but was unable to attend due to a family emergency. His written statement is included in the record.

Committee on Transportation and Infrastructure
U.S. House of Representatives

Bill Shuster Chairman	Washington, DC 20515	Nick J. Rahall, II Ranking Member
Christopher P. Bertram, Staff Director	February 28, 2014	James H. Zoia, Democrat Staff Director

SUMMARY OF SUBJECT MATTER

TO:	Members, Subcommittee on Coast Guard and Maritime Transportation
FROM:	Staff, Subcommittee on Coast Guard and Maritime Transportation
RE:	Hearing on "Maritime Transportation Regulations: Impacts on Safety, Security, Jobs, and the Environment; Part II"

PURPOSE

The Subcommittee on Coast Guard and Maritime Transportation will conduct the second part of its two part hearing to review the status of regulations by the United States Coast Guard, the Environmental Protection Agency (EPA), the Federal Maritime Commission (FMC), and the Maritime Administration (MARAD), as well as examine how such regulations impact the maritime industry. The Subcommittee will meet on Tuesday, March 4, 2013, at 10:00 a.m. in 2253 Rayburn House Office Building for Part II of the hearing. Part II will focus on environmental regulations. For Part II, the Subcommittee will hear from the Coast Guard, EPA, and non-federal witnesses.

The Subcommittee previously met on Tuesday, September 10, 2013, at 10:30 a.m. for Part I of the hearing. Part I focused on safety and commercial regulations. For Part I, the Subcommittee heard from the Coast Guard, FMC, MARAD, and representatives from private industry.

BACKGROUND

The Rulemaking Process

The federal government creates or modifies rules and regulations through a rulemaking process guided by the Administrative Procedure Act (APA), codified in title 5, United States Code. The process involves notice in the *Federal Register* and the opportunity for public comment in a docket maintained by the regulating agency. In addition to complying with the APA, a federal agency must also promulgate regulations and rules in compliance with other statutory mandates and its own rules and policies.

The Coast Guard's Regulatory Development Program is typical of the approach taken by other federal agencies in promulgating regulations. After identifying the need for regulatory action, usually as the result of a public petition, internal review, casualty investigation, change in an international treaty, or an act of Congress, the Coast Guard forms a rulemaking team. The rulemaking team creates a detailed and comprehensive work plan, which summarizes and defines the rulemaking project and ensures the availability of proper resources. The rulemaking team typically drafts a Notice of Proposed Rulemaking (NPRM) for publication in the *Federal Register*. Prior to publication in the *Federal Register*, the NPRM must be cleared through several internal Coast Guard offices, and externally through the Department of Homeland Security and the Office of Management and Budget.

The Coast Guard typically accepts public comments in response to an NPRM for 90 days. The rulemaking team reviews the public comments and develops responses in accordance with APA requirements. The rulemaking team posts all *Federal Register* documents (e.g. NPRM, public notices, economic and environmental analyses, studies and other references, etc.) and public comments (provided they do not contain classified or other restricted information) to a public docket accessible via the www.Regulations.gov website.

After considering public comments, the rulemaking team typically drafts a final rule for publication in the *Federal Register* (certain circumstances warrant the use of other final rule documents such as an Interim Final Rule, Direct Final Rule or Temporary Final Rule, or may warrant termination of the rulemaking project, for which withdrawal procedures exist). The final rule must contain: (1) the regulatory text; (2) a concise general statement of the rule's basis and purpose; and (3) a discussion of the public comments and Coast Guard responses. Prior to publication in the *Federal Register*, the final rule must be cleared in a manner similar to the NPRM clearance process described above.

The final rule includes an effective date which is typically 90 days after publication of the final rule in the *Federal Register*. The regulatory process is completed as of the effective date. However, once the rulemaking is effective, its implementation may be delayed by litigation.

Significant Coast Guard Environmental Rulemakings Affecting the Maritime Industry

Nontank Vessel Response Plans

On September 30, 2013, the Coast Guard published a final rule entitled *Nontank Vessel Response Plans and Other Vessel Response Plan Requirements (RIN 1625-AB27)*. These regulations require the owners and operators of nontank vessels greater than 400 gross tons that carry oil for fuel to prepare and submit oil spill response plans. The Coast Guard estimates that the 10-year total cost of the proposed rule to U.S. and foreign flagged vessel owners is between $263 million and $318.4 million. The Coast Guard did not provide an estimate on monetized benefits, but did estimate the rules could prevent the discharge of as much as 2,446 barrels of oil over a 10-year period.

Ballast Water

On March 23, 2012, the Coast Guard published a final rule entitled *Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters (RIN 1625-AA32)*. These regulations are intended to control the introduction and spread of non-indigenous species from ships discharging ballast water in waters of the United States. The final rule would require the installation of ballast water treatment systems (BWTS) on ocean-going vessels. Each BWTS must be certified or "type approved" by the Coast Guard to ensure it will prohibit the release of ballast water containing more than 10 organisms that are greater than 10 micrometers in size per cubic meter of ballast water or certain concentrations of smaller size classes of organisms. This is the same standard adopted by the International Maritime Organization (IMO) under regulations to implement the International Convention for the Control and Management of Ships' Ballast Water and Sediments. Under the final rule, installation of BWTS must begin with new vessels constructed after December 1, 2013, and would be phased in for existing vessels over the next five years. The Coast Guard estimates the 10-year total cost of the proposed rule on U.S. vessel owners could exceed $645 million. The Service estimates benefits could total between $989 million and $1.6 billion depending on the effectiveness of the BWTS technologies in stopping the introduction and spread of invasive species.

To date, the Coast Guard has certified two independent laboratories to accept BWTS from manufacturers for type approval testing. However, applications from BWTS manufacturers have been few, and consequently, no BWTS have yet been type approved. As such, on September 25, 2013, the Coast Guard issued a policy letter to inform vessel owners of the procedure to request an extension to the deadlines to install BWTS on their vessels (Policy Letter CG-OES). As of February 19, 2014, the Coast Guard had granted extension requests to 25 vessels. Vessel operators that do not install a type approved BWTS or request an extension may achieve compliance with the Coast Guard rule for five years by installing a Coast Guard approved alternative management system (AMS). An AMS is a BWTS that has been certified to meet the IMO standard by a foreign country. As of February 12, 2014, the Coast Guard had approved 34 AMS.

Significant EPA Environmental Regulations Affecting the Maritime Industry

Ballast Water and Other Incidental Discharges

Pursuant to a federal court order, in December 2008, the EPA promulgated final regulations establishing a Vessel General Permit (VGP) for Discharges Incidental to the Normal Operation of Vessels under the Clean Water Act's National Pollution Discharge Elimination System program (EPA-HQ-OW-2011-0055). The VGP required vessel operators to be in compliance with best management practices covering 26 types of discharges incidental to normal vessel operations, including ballast water, deck runoff, air conditioner condensate, bilge water, graywater, and cooling system discharges. With respect to ballast water, the VGP incorporated the Coast Guard's previous regulation that required mandatory ballast water exchange.

On March 28, 2013, the EPA released its final 2013 VGP to replace the 2008 VGP, which expired on December 18, 2013 (EPA-HQ-OW-2011-0141). The 2013 VGP requires the

installation of BWTS on certain vessels operating in U.S. waters carrying more than eight cubic meters of ballast water. Similar to the Coast Guard's ballast water rule, BWTS under the 2013 VGP would need to be certified to prohibit the release of ballast water containing more than 10 organisms that are greater than 10 micrometers in size per cubic meter of ballast water or certain concentrations of smaller size classes of organisms (same as the IMO standard). However, the EPA does not require the BWTS to be type approved. In addition to regulating the 26 incidental discharges regulated under the 2008 VGP, the 2013 VGP adds the regulation of effluent, including ice slurry, from fish holds on commercial fishing vessels. The 2013 VGP also incorporates local water quality regulatory requirements added by 25 states that vessel operators must comply with while transiting those jurisdictions.

The EPA estimates that over 70,000 vessels will need to comply with the 2013 VGP at a cost of up to $23 million annually. This estimate does not include the cost to purchase and install BWTS on board a vessel or the cost of additional regulatory requirements which may be added by the states. The EPA could not calculate monetized benefits as a result of the implementation of the 2013 VGP, but it stated the permit would have two qualitative benefits: (1) reduced risk of invasive species; and (2) enhanced water quality.

As previously stated, the Coast Guard rule requires the installation of type-approved BWTS on a schedule based on vessel ballast water capacity and construction date. Since no BWTS has yet been type approved, the Coast Guard is granting vessel operators extensions from the deadlines to install BWTS on their vessels. The 2013 VGP does not include a similar administrative mechanism for vessel operators to receive an extension. On December 27, 2013, the EPA released a memorandum outlining its enforcement policy for vessels that received an extension from the Coast Guard for the installation of BWTS. The memorandum states that although these vessel owners would still be in violation of the Clean Water Act, the EPA would "consider such violations... a low enforcement priority". Vessels that install a Coast Guard approved AMS are in compliance with the 2013 VGP.

On November 30, 2011, the EPA released a draft Small Vessel General Permit (sVGP) to cover commercial vessels less than 79 feet in length that are currently subject to a moratorium from compliance with the VGP (EPA-HQ-OW-2011-0150). The current moratorium was last extended in the Coast Guard and Maritime Transportation Act of 2012 (P.L. 112-213) and expires on December 18, 2014. The draft sVGP requires these vessels to comply with best management practices for the same 27 incidental discharges as the 2013 VGP. The EPA estimates that approximately 138,000 vessels will need to comply with the draft sVGP at a cost of up to $12 million annually. This estimate does not include the cost of additional regulatory requirements which may be added by the states. The EPA could not calculate monetized benefits as a result of the implementation of the draft sVGP, but it stated the permit would have the same two qualitative benefits as the 2013 VGP. A final sVGP is currently in agency review.

H.R. 4005, the Howard Coble Coast Guard and Maritime Transportation Act of 2014 includes a provision based on legislation introduced by Representatives LoBiondo and Larsen (H.R. 3464) to exempt commercial fishing vessels and commercial vessels less than 79 feet without ballast tanks from the sVGP requirements. The provision does not impact the regulation of ballast water discharges by the Coast Guard, EPA, or state governments. H.R. 4005, as

amended, was ordered reported by the Committee on Transportation and Infrastructure by voice vote on February 11, 2014.

North American Emission Control Area

On March 26, 2010, at the request of the EPA, the Coast Guard, and its Canadian counterpart agencies, the IMO amended the International Convention for the Prevention of Pollution from Ships (MARPOL) to designate specific portions of U.S. and Canadian waters as an Emission Control Area (ECA) to address vessel exhaust emissions (EPA-420-F-10-015). Beginning on August 1, 2012, vessels operating in the North American ECA (e.g., contiguous waters out to 200 miles from shore) were required to burn fuel with lower sulfur content (1 percent) or install scrubbers in their exhaust systems to reduce emissions of sulfur oxides and nitrogen oxides. Beginning in 2015, the sulfur fuel standard will be further reduced to 0.1 percent sulfur. The EPA estimates it will cost industry approximately $3.2 billion by 2020 to comply with the North American ECA. The EPA estimates the monetized benefits to be between $47 and $110 billion by 2020.

WITNESSES

Panel I

Rear Admiral Joseph Servidio
Assistant Commandant for Prevention Policy
United States Coast Guard

The Honorable Michael Shapiro
Principal Deputy Assistant Administrator
Office of Water, Environmental Protection Agency

The Honorable Chris Grundler
Director, Office of Transportation and Air Quality
Office of Air and Radiation
Environmental Protection Agency

Panel II

Mr. Thomas A. Allegretti
President
The American Waterways Operators

Ms. Kathy J. Metcalf
Director, Maritime Affairs
Chamber of Shipping of America

Mr. James Roussos
Vice President of Boat Operations
LaMonica Fine Foods LLC

Mr. Rod Jones
President and CEO
CSL Group

MARITIME TRANSPORTATION REGULATIONS: IMPACTS ON SAFETY, SECURITY, JOBS, AND THE ENVIRONMENT, PART 2

TUESDAY, MARCH 4, 2014

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The committee met, pursuant to call, at 3:05 p.m. in Room 2253, Rayburn House Office Building, Hon. Frank A. LoBiondo presiding.

Mr. LOBIONDO. The subcommittee will come to order.

Chairman Hunter, because of the crazy schedule this week, is in the air as we speak. He has asked me to sit in. And I believe Mr. Garamendi will be here very shortly. But out of respect for your schedules, we will go ahead and we will get started.

The subcommittee is meeting today for the second part of our two-part hearing to review regulations affecting the maritime industry. Today's hearing will focus on environmental regulations and how such regulations impact the flow of commerce through our ports and the ability to grow jobs in the maritime sector.

The Coast Guard and the EPA are writing and enforcing new regulations on vessel owners in an effort to improve water and air quality. While regulations should address ways to enhance environmental stewardship, they must also balance the importance of maintaining the free flow of maritime commerce. I am very concerned that some of these regulations fail to achieve that balance.

Some of these rulemakings are extremely costly. They are burdensome and they are duplicative and they are not being applied and enforced in a fair manner. Take, for instance, regulations governing the discharge of ballast water.

Currently the Coast Guard and the EPA have developed separate regulations under two different Federal laws to govern ballast and water discharges. Although the agencies have worked together to try to reach uniformity, the programs still differ in vessels covered, geographic reach, enforcement, and penalties for noncompliance.

For example, the Coast Guard rules allow for vessel owners to seek an extension if treatment technologies do not exist or cannot be installed by the deadline. The EPA provides no mechanism for an extension, leaving a vessel owner liable for civil and criminal penalties through no fault of their own.

The situation only becomes more confusing and burdensome for vessel owners as each individual State adds its own ballast water discharge requirements on top of the EPA's program.

Under the EPA's current program, 25 States have added their own differing discharge standards. Some States have laws in place forcing vessel owners to treat their ballast water to a standard for which no technology has yet been invented. I would like to know what the rationale is behind that, but we will leave that go.

The situation is ridiculous. It is completely unreasonable to ask vessel operators to comply with 2 Federal standards and as many as 25 different contradictory and unachievable State standards.

I appreciate the committee's work to include legislation that Mr. Larsen and I drafted to address incidental discharges from fishing vessels in the Coast Guard bill, and I hope that legislation will move forward soon. However, we still need to tackle the issue of ballast water.

I look forward to working with my colleagues in the House and Senate on bipartisan legislation to establish a uniform national ballast water discharge standard. I am also concerned about the implementation of the North American Emissions Control Area.

Beginning January 1st of 2015, vessels transiting 200 miles from shore will need to burn ultra-low-sulfur fuel. While I understand the critical importance of improving the air quality in our coastal regions, I am concerned the EPA and Coast Guard did not properly consider the economic impact this rule will have on smaller vessels that must travel entirely within the EEZ.

The costs associated with this new rule could severely undermine efforts to promote the use of short sea shipping as an alternative to moving freight along our congested highways. I look forward to hearing from our witnesses on what steps they plan to take to work with industry on this issue.

As I have said before, maritime commerce is essential to the U.S. economy. Domestic shipping alone is responsible for over 500,000 American jobs and $100 billion in annual economic output. With the economy still in a fragile state, it is imperative that the Federal Government foster an atmosphere where our maritime industry can compete and expand.

I want to thank Ranking Member Garamendi and the witnesses for working with us on rescheduling today's hearing, and I look forward to hearing from all of our witnesses.

With that, I yield to Mr. Garamendi.

Mr. GARAMENDI. Thank you, Mr. LoBiondo.

I understand that our chairman is still trying to find his way here from California.

Mr. LOBIONDO. You seem to have mastered that.

Mr. GARAMENDI. I didn't say that to draw that as a difference.

Mr. LOBIONDO. No. I mentioned right before you got here, he sent his regrets. There is an outside chance he could make it, but with the flight schedules that he had to deal with, he couldn't quite get here for 3 o'clock, and appreciates the cooperation to allow this important topic to move forward.

Mr. GARAMENDI. I had the good fortune to have one of the few flights that actually did take off in the last couple days.

In any case, I want to thank you and the chairman for rescheduling this hearing from this morning to this afternoon and for the previous effort to get it done.

It is important, really. The status of the environmental regulations affecting the maritime transportation is of utmost importance to the industry as well as to the environment.

I look forward to learning more about the status of the Coast Guard's and the Environmental Protection Agency's rulemaking activities and, as you said, either the coordination or lack of coordination.

As I have stated before, making sure that the Federal regulations are targeted, fair, and reasonable is necessary to ensure that the ongoing recovery of the U.S. economy continues to gain traction and that the U.S. maritime industry remains a vibrant source of job creation. My constituents expect nothing less.

In particular, I will be interested in hearing from both the Coast Guard and the EPA on the challenges that remain in implementing their respective rules to address the issue of ballast water discharge into the waters of the United States.

According to the National Oceanic and Atmospheric Administration, every year there are more than 21 billion gallons, more than 40,000 gallons a minute, of ballast water that are discharged into U.S. waters.

Moreover, every day an estimated 10,000 marine species are transported around the world in ballast water. The current number of invasive species in San Francisco Bay alone is now at 212, and new species are appearing every 14 weeks.

That is a major economic problem for the area that I represent, the San Francisco Bay and the delta. It has led to a huge blowup in the water issues.

Unfortunately, the ecological havoc that is caused by this is not likely to get better. In fact, it is likely to get worse as the spread of invasive species is increased along with expansion of global trade.

We need to hear from the EPA on what challenges may lay ahead in the Vessel General Permit to regulate vessel discharges.

I also want to hear from the Coast Guard on its forecast for the type approval for ballast water treatment systems allowing shipping lines to comply with the Coast Guard and the EPA's ballast water discharge regulations. And, once again, I think it is extremely important that these regulations be coordinated and consistent and work together.

I would also be interested in hearing from the EPA and witnesses from the maritime industry about EPA's ongoing implementation of its rule implementing the North American Emissions Control Area. We are a coastal State in California, and this issue was of considerable interest to the State.

That North American Emission Control Area is intended to reduce vehicle emissions in the coastal airsheds and improve public health. The ECA is a vital contributor to the California strategy to meet its emission reduction targets.

It is important that we understand how the rule is working, how the industry is adapting during its transition to meet the low-sulfur fuel standards and whether we can expect any shortage in the

supply of low-sulfur fuel to vessel operators and the cost associated with that.

Mr. LoBiondo, I thank you for conducting the hearing. I look forward to working with you as this hearing proceeds. And who knows. Maybe the chairman can actually catch a plane. We will see.

Mr. LOBIONDO. OK. Thanks, John.

Mr. GARAMENDI. Or a plane can actually fly.

Mr. LOBIONDO. We welcome our first panel of witnesses today: Rear Admiral Joseph Servidio, Assistant Commandant for Prevention Policy at the United States Coast Guard; Mr. Michael Shapiro, Principal Deputy Assistant Administrator of the Office of Water at the Environmental Protection Agency; Mr. Chris Grundler, who is director of the Office of Transportation and Air Quality at the Environmental Protection Agency.

Admiral, you are recognized.

TESTIMONY OF REAR ADMIRAL JOSEPH A. SERVIDIO, ASSISTANT COMMANDANT FOR PREVENTION POLICY, UNITED STATES COAST GUARD; HON. MICHAEL H. SHAPIRO, PRINCIPAL DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY; AND CHRISTOPHER GRUNDLER, DIRECTOR, OFFICE OF TRANSPORTATION AND AIR QUALITY, OFFICE OF AIR AND RADIATION, U.S. ENVIRONMENTAL PROTECTION AGENCY

Admiral SERVIDIO. Chairman LoBiondo, Ranking Member Garamendi, distinguished members of the subcommittee, good afternoon.

It is my pleasure to return today and continue our discussion about the Coast Guard's regulatory program and specifically our environmental reg initiatives.

The Coast Guard's regulatory program focuses on managing maritime risks through the establishment of proficiency, safety, and security standards. Doing so protects life, property, and our precious marine environment.

Our goal is to harmonize protection of the maritime environment with ensuring safe and efficient flow of commerce. Achieving the appropriate balance requires a pragmatic and transparent reg development process. We aim to produce relevant, environmentally sound, and achievable standards.

More than half of the Coast Guard's rulemaking projects involve environmental issues, such as ships' discharge of solid waste and pollution from oil and hazardous substances.

The Coast Guard has also published a number of rules aimed at protecting the marine environment. Two of the more notable ones include Ballast Water Discharge Standard and the Nontank Vessel Response Plan Final Rules.

Ballast Water Discharge Final Rule established a Federal standard for the concentration of living organisms in ships' ballast discharged into the U.S. waters. The Coast Guard worked closely with our interagency partners to develop this rule, ensuring appropriate measures were in place to protect our waterways.

The recently published Nontank Vessel Response Plan Final Rule requires nontank vessels to plan for and contract resources to

respond to a fuel spill, a fire, a vessel grounding or other incidents posing environmental threats.

This rule enhances national preparedness and response capabilities. It increases U.S. oil spill, marine firefighting, and salvage capabilities, and it ensures shortened response times to potentially catastrophic incidents.

The shipping industry rose to meet the requirements by submitting 1,700 nontank vessel response plans for Coast Guard approval before the 30th of January with no apparent impact on commerce. To date, we have issued over 1,800 interim operating authorizations covering more than 12,000 nontank vessels.

These rulemakings highlight two of the more significant reg projects finalized by the Coast Guard. My written statement provides details on others.

The Coast Guard also works internationally to protect the marine environment with our interagency partners at the International Maritime Organization, or IMO. The Coast Guard has been successfully shaping and influencing initiatives that globally promote safe and effective environmental protection standards.

Our efforts at IMO include working to reduce air emissions from ships through improved efficiency, implementing more stringent measures to eliminate at-sea garbage discharges, and developing standards for safe and environmentally friendly ship recycling.

Through strong ties with Canadian counterparts and working with the EPA, we developed and implemented the North American and Caribbean Sea Area Emission Control Areas, or ECAs.

In the polar regions, the Coast Guard recognizes expanded environmental risk. We worked with interagency and industry reps, including NOAA, the EPA, the National Science Foundation, and the Department of Defense, to develop a consensus U.S. position.

The Polar Code will provide a crucial mechanism for ensuring vessels in Arctic waters meet safe and environmentally sound design and operating standards.

Along with our interagency colleagues and the partnering Arctic States of Norway, Finland, Canada, Denmark, and Iceland, the Coast Guard is leading the development of the Polar Code's environmental component.

In summary, the Coast Guard has a long and consistent history of collaboration with our interagency partners and the international community.

We nurture these relationships to develop thoughtful standards that promote the protection of the marine environment while balancing the need for the efficient flow of commerce. This has been and will remain our core focus.

As I said before, the Coast Guard thanks Congress and specifically this subcommittee for your interest and your involvement in our activities.

Your continued support will ensure the Coast Guard is able to effectively advance marine environmental policy development in both domestic and international arenas.

Thank you. I look forward to your questions.

Mr. LOBIONDO. Thank you, Admiral.

Mr. Shapiro, you are now recognized.

Mr. SHAPIRO. Good afternoon, Chairman LoBiondo and Ranking Member Garamendi. Thank you for the opportunity to discuss the EPA's regulation of vessel discharges under the Clean Water Act.

All of us are concerned about the environmental and economic impacts of invasive species. Economic costs from invasions are in the billions of dollars annually.

Over the past several years, we have worked together with the Coast Guard to develop a strong ballast water management program to help reduce the risk of new introductions.

EPA's Vessel General Permit, or VGP, regulates discharges incidental to the normal operation of a vessel, including ballast water. The VGP includes discharge limits, monitoring, and recordkeeping requirements and other conditions.

Discharge limits are primarily in the form of best management practices, or BMPs, that in many cases are already being performed on vessels. The 2013 Vessel General Permit went into effect in December of last year.

As we have started to implement these requirements, we have been contacted by vessel owners concerned about the ballast water technology requirements in the Coast Guard's rule and the EPA's Vessel General Permit.

To help address these concerns, the EPA issued an enforcement response policy in December of 2013 which states that vessels that cannot meet the VGP's numeric ballast water limits and have received a compliance extension from the Coast Guard are considered a low enforcement priority.

The EPA and the Coast Guard worked together to develop and distribute a joint letter to those vessel owners that have been or will be granted an extension from the Coast Guard's regulations.

Our coordinated response helps to provide the regulated community with a common understanding of how the permit and the rule work together with respect to such extensions.

Regarding smaller vessels, the EPA proposed the Small Vessel General Permit, or SVGP, in 2011 to provide Clean Water Act authorization for fishing vessels and commercial vessels less than 79 feet if and when the congressional moratorium on these smaller vessels expires.

Recognizing that these smaller vessels are different in how they operate, the draft SVGP is shorter and simpler than the VGP, which was developed for larger vessels.

The draft SVGP specifies commonsense best management practices for several categories of discharges, all of which need to be covered in order for a vessel to operate in compliance with the Clean Water Act.

We are currently considering public comments we received which will inform our development of a final Small Vessel General Permit.

Once again, Chairman LoBiondo and Ranking Member Garamendi, thank you for the opportunity to discuss EPA's vessel permits. I look forward to answering any questions you may have. My full statement has been submitted for the record.

Mr. LOBIONDO. Thank you, Mr. Shapiro.

Mr. Grundler, you are now recognized.

Mr. GRUNDLER. Thank you, Chairman LoBiondo, Ranking Member Garamendi, and other Members. I appreciate the opportunity to testify today on the implementation of the North American and U.S. Caribbean Sea Emission Control Areas, or ECAs.

ECAs are one of the most important and cost-effective air quality programs the U.S. Government has put into place in the past decade and will result in the prevention of tens of thousands of premature deaths.

The North American ECA is already yielding significant public health and environmental benefits extending from all U.S. coastal areas to hundreds of miles inland.

In 2014, more than 135 million people living in ozone nonattainment areas and over 84 million people living in fine particle nonattainment areas will benefit from cleaner air due to the ECA.

Furthermore, these air quality improvements are critical for States to attain and maintain the existing health-based National Ambient Air Quality Standards, or NAAQS.

By 2030, emission reductions resulting from the North American ECA will prevent between 12,000 and 31,000 premature deaths and 1.4 million workdays lost in the United States.

EPA estimates that the monetized human health and welfare benefits of this program outweigh the costs of this program by a factor of at least 30 to 1. In short, the ECA is one of the most cost-effective mobile source programs ever adopted.

Implementation of the ECA started in August 2012 when the allowable marine fuel sulfur level was reduced to no greater than 10,000 parts per million.

The Coast Guard and EPA have worked and continue to work closely with the regulated community to ensure an orderly transition during this first stage of ECA standards. Overall, implementation of ECA is going very well and ships are using compliant fuel in the ECA.

A second stage of fuel sulfur controls takes effect in January 2015 when the allowable limit decreases to 1,000 parts per million.

This ECA-compliant fuel is expected to be diesel fuel, which is already widely available at many ports as it is used on ships for auxiliary engines and for startup of the main engines.

The EPA and Coast Guard will continue to work with vessel owners during the transition to the 2015 standards, just as we have done in the first stage of the fuel standards.

While the ECA is a significant public health achievement, ECA fuel in 2015 will still have a much higher sulfur content than fuels used in any other U.S. transportation sector, more than 65 times higher than the allowable sulfur content for diesel fuel used in cars, trucks, trains, and ships operating on our inland waterways.

MARPOL Annex VI contains some flexibility provisions, and several owners of ships that operate primarily in the ECA have requested and received permits to develop new technologies and methods that can achieve compliance at a lower cost.

EPA has worked closely with the Coast Guard and the relevant flag countries to assess and approve several of these projects. As a result, these companies are making substantial investments to develop exhaust gas cleaning systems, convert or build new vessels

to use liquefied natural gas fuel, and use shoreside power to reduce emissions.

EPA has worked closely with these companies to ensure that they will receive equivalent or greater emission reductions and are incentivizing the development of this new technology.

We will continue to work with the Coast Guard and the industry on programs to reduce costs and encourage the development of new lower cost technologies and compliance methods while meeting these tremendous public health benefits of the ECA.

Thank you for the opportunity to appear before you today.

Mr. LOBIONDO. Thank you very much.

We will now go to some questions.

Admiral, first for you. Why do you think the manufacturers are reluctant to submit their treatment systems for type approval in the U.S. Coast Guard? I mean, why aren't we seeing some of that?

Admiral SERVIDIO. Sir, what I can say is that the G8 guidelines, which are the international standards, are guidelines, and the interpretation by some of the administrations have been different on what needs to be done for an approved—an IMO-approved ballast water treatment system.

I believe some of the manufacturers are going through testing now to make sure that their systems will pass Coast Guard type approval, which is going to be done by an independent third party.

We have two consortiums of laboratories that have been identified, and they are looking—I am aware of one company that is looking in the next couple of months to aggressively begin type approval for its system that the Coast Guard has accepted as an alternate management system, sir, a system which currently has IMO type approval. When the Coast Guard brought AMSs into the AMS program, it was anticipated they would go through Coast Guard type approval.

So, all of those systems are expected to go through Coast Guard type approval. I can only speculate on why it has taken some of them longer. We do anticipate at least one system will be going through type approval very shortly.

Mr. LOBIONDO. Admiral, does the Coast Guard support a single Uniform National Discharge Standard for ballast water?

Admiral SERVIDIO. Mr. Chairman, I could say that right now we do have two different statutes with two different requirements. We are working closely with the EPA to, as best we can, mesh those systems. I have spoken to Mike Shapiro probably weekly on some of what we are trying to do.

I think the fact that we cosigned a letter that accompanies all Coast Guard extensions for ballast water management systems speaks to the fact that we are looking to have one unified Government voice with regards to ballast water requirements, but there are two different statutes, sir, with two different requirements.

Mr. LOBIONDO. So as of now, you don't support a single uniform standard?

Admiral SERVIDIO. Sir, I can just say there are two different statutes that the Coast Guard works over and the EPA works under, and we are trying to mesh them as best we can. But they are two different statutes, sir.

Mr. LOBIONDO. Well, I certainly will not speak for other colleagues on the committee, but this, I think, is getting sort of to the heart of the problem, as some of us see it, and as what happens out in the real world. I don't know how you have people going to a couple different standards. But thank you for your answer.

Mr. Shapiro, you talked in your statement about law enforcement priority. Can you tell us what that means. I mean—I am sorry—low enforcement priority.

Mr. SHAPIRO. Low enforcement priority is a way of guiding EPA's enforcement activities so as to avoid focusing on areas which we believe don't merit attention—or merit very low attention.

In the case of the Vessel General Permit and those vessels that have been granted extensions by the Coast Guard and are otherwise in compliance with the other requirements of the Vessel General Permit, our strong belief is that looking at the discharge limits from the ballast water should not be a priority for our enforcement activities.

And, again, the reason for that is we want our approach to be as closely aligned with the Coast Guard's as it can be under the statutory framework that we operate under.

Mr. LOBIONDO. So from your perspective or the EPA's, are these vessel owners going to be held in violation of the Clean Water Act or not?

Mr. SHAPIRO. Again, our expression is it is a very low priority. I think history has shown, when we have used a similar tool in the past in other situations similar to this, EPA has not pursued enforcement where it has been designated a low priority.

So I think there is a track record that we have to point to that shows that, when we say low priority, we mean very low priority.

Mr. LOBIONDO. Very low priority.

But if you are a small vessel owner, I hope you can understand the uncertainty that is created, because what you are saying, I guess, is that, on a given day, under given circumstances, the EPA could choose to enforce, which would result in a fine. And that is, I think, getting to part of the heart of the problem that we are talking about here.

One more question for you, Mr. Shapiro. Given the problems that have arisen due to the differences with the Coast Guard on scope, extension, enforcement, and, you know, the differing standards, does EPA support a single uniform ballast water discharge standard?

Mr. SHAPIRO. The administration has not taken a position on that question.

So as with Rear Admiral Servidio, what we have—based on the existing law and the court decisions affecting our jurisdiction, the serious intent on the part of EPA to align our work as closely as possible with the Coast Guard's, I think we both share the objective that, ultimately, vessels will be operating under type-approved systems which are meeting rigorous standards that EPA and the Coast Guard jointly worked on and hope to implement.

So, you know, I think our two answers are the same. We don't have a position on that question. We are doing what we think are the appropriate measures in order to align our work together under the existing statutory framework.

Mr. LOBIONDO. Well, I think therein lies the problem, at least for myself and some of my colleagues.

If we can't point to a single standard, I don't know how we go to the people who are operating vessels and give them any certainty about what they have to do and how they have to do it.

I have a couple more questions, but I want to defer to Mr. Garamendi at this time, and then I will come back for the balance of mine.

Mr. GARAMENDI. Thank you, Mr. LoBiondo.

Admiral Servidio and Mr. Shapiro, you have both repeatedly said given the statute that you have to work with. It is our business to change statutes.

I am not advocating that we change, but we—is there some—what are the differences that are causing the discussion that we just had? What are the specific differences in the statutes that lead to this conflict between the statutes?

Admiral SERVIDIO. Ranking Member, the Coast Guard works under the National Invasive Species Act, and the EPA is working under the Clean Water Act. Those are very different statutes with different requirements, with different State requirements. There is a number of factors. The regimes are very different, sir.

Mr. GARAMENDI. There is nobody else in this room that has the experience that the two of you have in working with these.

Is there a way to coordinate these two statutes so as to eliminate the problem while maintaining the goal?

Admiral SERVIDIO. Ranking Member, I can say the cleanest way forward is to install a Coast Guard type-approved ballast water management system.

At the present time we are working on that type approval process, but we don't have a Coast Guard type-approved ballast water management system, and that is causing some of the problems between the two statutes.

Mr. GARAMENDI. But that is an industry issue trying to develop a specific solution, that is, technology, to address the problem. Is that correct?

And then, if that were to happen, then you are suggesting the EPA's law and regulation would be satisfied?

Mr. SHAPIRO. Well, certainly the particular issue we are talking about, which is the treatment of vessels whose owners have applied for and gotten an extension to the compliance for the ballast water numeric standard—that issue would certainly be resolved. Once the type-approved systems are available, vessels would have to adopt those systems.

In the interim, though, there are differences in the way our laws are structured, which in this particular case gives EPA somewhat less flexibility than the Coast Guard in addressing the current unavailability of type-approved systems.

Mr. GARAMENDI. You mentioned this. But what is the status of the type-approved system? You said there is one that is being reviewed now? Go into that——

Admiral SERVIDIO. Sir, the Coast Guard is required—sorry, sir.

Mr. GARAMENDI. Just go into that in a little more depth, if you would, please.

Admiral SERVIDIO. An internationally approved ballast water management system, the Coast Guard was required to bring it into the alternate management system, which allows the vessel to keep that system on for 5 years until a type-approved system is available.

The thought would be that they would be able to, during that 5-year period, make whatever modifications to that system so it could become type-approved. There is a requirement that, when you become part of the AMS process, that you have to submit for Coast Guard type approval.

Of the 33 international systems now that the Coast Guard have brought into the AMS program, none of them have aggressively—or have at this point in time initiated the type approval process through those 2 designated independent laboratories that are capable of doing that.

I have been told that one of them is going to be doing that shortly, sir, and I am hoping that others will also be doing that shortly.

Mr. GARAMENDI. So it is the industry that has the initiative?

Admiral SERVIDIO. There is different segments of the industry, sir. It is both vendors and it is the shipowners and operators.

Mr. GARAMENDI. Take them one at a time.

What are the vendors doing?

Admiral SERVIDIO. Again, the vendors now are the ones that have to get their systems type-approved. The owners-operators are taking a risk by installing a system or even working with a vendor. If that does not become type-approved, they might have to replace that system, sir.

Mr. GARAMENDI. So the initiative lies with the vendors and, I suppose, also with the shipowners, who I assume would be pressing for some approved system that they could then work with?

Admiral SERVIDIO. I think, sir, the second panel can probably talk more about what—the specific problems they have seen or what they have—why we haven't seen more type-approved systems at this point, sir.

Mr. GARAMENDI. Then, I will get into it with the second panel.

Mr. Shapiro, if there is a system approved or multiple systems approved, would they meet your requirements and fulfill your obligations under the law?

Mr. SHAPIRO. Type-approved systems would certainly meet our requirements.

Now, we also have some ongoing monitoring requirements as part of the Vessel General Permit regulation. So the systems would have to, in operation, achieve certain limits that are listed in our Vessel General Permit.

But we start with the presumption that a type-approved system meets all the equipment requirements necessary for operation. So——

Mr. GARAMENDI. The question——

Mr. SHAPIRO [continuing]. We also——

Mr. GARAMENDI. Please go ahead.

Mr. SHAPIRO. We also do accept in our Vessel General Permit AMS systems that Rear Admiral Servidio referred to as well, but they would also have to meet the same numerical limits.

Mr. GARAMENDI. Now, Admiral Servidio, do you also have ongoing monitoring requirements?

Admiral SERVIDIO. Sir, once we end up getting type-approved systems, we will develop a compliance and enforcement policy, and during that compliance and enforcement policy, we will get into the details of what sampling or other types of things might be necessary.

Mr. GARAMENDI. Could that be coordinated and be the same as the EPA?

Admiral SERVIDIO. I think we can look to coordinate it, sir. But, again, the heart of the issue is the Invasive Species Act is different than the Clean Water Act.

And even though we might be able to address something short term, I am not sure long term whether there will also be issues that pop up in the future, sir. They are different statutes. We are coordinating them as best as we can.

Mr. GARAMENDI. I fail to see why they couldn't be coordinated. You both have to monitor the ongoing operation of that discharge system.

What conceivable reason is there that you could not have the same form to fill out, the same monitoring, the same dates or the same time periods in which they would be monitored?

Admiral SERVIDIO. Sir, I am not an attorney, but I do believe there are some different requirements as far as technology that is different in the Clean Water Act than might be in the Invasive Species Act.

Mr. GARAMENDI. Mr. Shapiro, is that the case?

Mr. SHAPIRO. I don't know whether, in practice, that would be the case. I can say we would work as hard as possible with our colleagues in the Coast Guard to make sure things were aligned effectively. You know, we will have to look into it.

Mr. GARAMENDI. And you guys get together every week?

Mr. SHAPIRO. Recently we have been communicating, often by phone, almost weekly. Given the nature of the issues that we are addressing, we will continue to work closely with the Coast Guard.

Mr. GARAMENDI. I am not going to speak for the chairman, but I will tell you the ranking member wants to know the specifics of how these two systems can coordinate.

You have already said that it can be coordinated with the Coast Guard certifying these systems and that would suffice the EPA. Now you are down to monitoring.

Am I right? I think I am right. I think that is what I heard.

And I should think that the Coast Guard and the EPA could figure out how to have the same form, same timeframe for monitoring, you know, every 6 months or every 6 minutes, whatever it might be, and do it once.

Now, if that is not the case, I want to know specifically where it is not going to be able to be done that way. OK?

Admiral SERVIDIO. Sir, yes, sir. What I can say is that there is a requirement under the Clean Water Act that States have authorities under that. They can file some requirements.

Mr. GARAMENDI. That is yet another issue. Let's not get the States involved here right now.

But just between the two of you, you are suggesting that, because the State might have a different system, that that would then make this more complex?

Admiral SERVIDIO. Sir, there are some States that have said——

Mr. GARAMENDI. For one, California and New York.

Admiral SERVIDIO [continuing]. You have to do ballast water exchange and ballast water treatment.

And right now on the—for Coast Guard type approval, it doesn't necessarily take into account having to do both of those aspects, both treating the water and exchanging the water.

So there is potentials going forward, sir, that there might be some conflicts. I do think we are working closely together, as close as we can, to have a uniform——

Mr. GARAMENDI. I want to be very specific here.

When State regulation or State action—and this is yet another matter, and I am certainly familiar with that, being from California and actually being involved in that when I was in California as a Lieutenant Governor.

But the issue here is between the two of you. And if there is another piece of this that comes in because a State—California or New York—which, incidentally, have backed off—leave that aside.

So for the EPA and the Coast Guard, apparently, there is a way to have one system or multiple systems that are approved by the Coast Guard that would be OK for the EPA.

Then comes the question of how do you continue to monitor, which I think is necessary, and I suspect you do and—kind of standard procedure.

I want to know, is there something in the laws that prohibits you from having the same monitoring system?

With that, I will let that question be answered soon, I hope, and I will yield back.

Mr. SHAPIRO. We will respond.

Mr. LOBIONDO. Mr. Meehan.

Mr. MEEHAN. I thank you, Mr. Chairman.

And allow me to attach myself to the line of questioning of the gentleman from California because I am particularly concerned as well just from the practical perspective of a ship's operator.

I mean, you both appreciate, do you not, the requirements that one as an owner has to go through to meet your inspection standards and why we would be requiring two separate inspections when they can be done simultaneously just as a matter of creating less ambiguity, but more efficiency, which is something that I hope we could work towards?

I think we have established that you have created regulations for a technology that does not yet exist, isn't that accurate, what we are talking about, for the ballast water exchange?

Let me ask you, Rear Admiral, first.

Admiral SERVIDIO. Sir, we recognize—we said in the preamble to the regulations that we believe the first type approval would be in 2015.

And that is part of our regs. We have an extension permit process so that there is a way for vessels to stay in compliance until a type-approved system is available.

Mr. MEEHAN. Why is that being done before the technology is available?

Admiral SERVIDIO. Sir, at times, there needs to be a forcing function. There is technology available. I believe there——

Mr. MEEHAN. Saltwater technology. Right?

Admiral SERVIDIO. There are some systems that have had freshwater technology, too, sir, that are in the AMS system that are able to work on freshwater. I believe there is about a thousand systems that have been installed internationally right now, sir.

Some of the issue is just how they were approved and whether it was done by a third party and whether they can meet the somewhat rigorous third-party independent laboratory process that we have established for type approval here in the U.S., sir.

I believe we will have type-approved systems. I believe there is technology. We are going through that process right now, sir.

Mr. MEEHAN. Well, let me ask a question of you, Mr. Shapiro, in terms of the regulations that are being conducted right now.

We share that waterway, do we not, with a northern neighbor?

Mr. SHAPIRO. Well, we certainly share a waterway with Canada. Yes.

Mr. MEEHAN. So, in essence, these regulations are going to affect Canadian shipping as well. Is that not right?

Mr. SHAPIRO. That is correct.

Mr. MEEHAN. Now, do I understand that—while you have been contemplating this issue and the regulations will not be fully enforceable, I am assuming what you are saying is you are not going to enforce the regulation until 2015, until you think you have some standards for American shipping.

Is that the same for Canadian shipping?

Mr. SHAPIRO. Our Vessel General Permit applies to any foreign vessels that are entering U.S. jurisdictional waters. So, yeah, it would apply to Canadian vessels as well as vessels from other nations that are entering our waters.

Mr. MEEHAN. Have you created special exemptions for American ships?

Mr. SHAPIRO. No, sir.

Mr. MEEHAN. So it is not accurate that there has been certain exemptions that have been identified by the EPA that—regard to vessels that were constructed before 2009 do not have to meet standards that ships built after 2010 do?

Mr. SHAPIRO. Vessels with respect to lakers, vessels operating on the Great Lakes, it is my understanding that you are correct. Vessels that were built before 2009 do not have to have ballast water discharge devices installed.

Mr. MEEHAN. So what you are doing, even though this is a situation in which it is—largely the Canadian fleet has invested more in newer shipping and we have a more aging American fleet.

But is it not accurate, then, that you are creating a—perhaps you are sort of gaming the system, so to speak, so that Canadian shipping is put at a disadvantage?

Mr. SHAPIRO. I think the requirement applies equally to Canadian or U.S. vessels. And so I don't think there was any intent to game, in your terms, the system to favor one nation's vessels versus another.

Mr. MEEHAN. Well, it was my understanding that some of them were exemptions that were for uniquely—are you saying that there is no exemptions that relate exclusively to United States shipping?

Mr. SHAPIRO. Well, for vessels that are solely operating in U.S. waters, for example, barges that are operating in the U.S. waters, they are not subject to ballast water requirements, but those are not doing international trade.

Mr. MEEHAN. What I need from you is whether or not you can give us a representation that you will work on a resolution.

I have great concern that what this is going to create is going to be retaliatory measures on the part of the Canadian authorities, who will turn around and create their own standards.

And am I not correct that there are certain points where, regardless of the shipping, they may have to go through waters that are controlled by—in the Saint Lawrence Seaway and other things that are controlled by Canada?

Mr. SHAPIRO. There is a long history of joint operations in the Saint Lawrence Seaway and others, but certainly Canada and the U.S., as you say, share that common seaway.

Mr. MEEHAN. Are we looking at the possibility that there could be significant retaliatory measures if, in fact, we don't find a way in which there can be collaboration and equal treatment for the Canadian vessels as those that are—in the same way American vessels are being treated in this waterway?

Mr. SHAPIRO. That issue has not been raised to my attention. I certainly would be willing to go back and look to see if we believe that such an issue is present.

Mr. MEEHAN. Will you make a commitment to me that you will reach out to the Canadian authorities and determine whether or not there is a capacity for there to be a resolution on this issue before there is final decisionmaking about how things are going to be enforced?

Mr. SHAPIRO. I am not actually sure of the specific issue you are referring to.

I think you raised the issue of whether there was some uneven treatment between U.S. and American vessels, and I will certainly look into that. But until I know what the specific issue is, it is hard to make a commitment as to what we can do about that.

Mr. MEEHAN. OK. Well, I don't—I am told it has to do with dates with regard to construction of ships and it also has—you know, exemptions that were made for American shipping, but not for Canadian shipping, with regard to the ballast, you know, equipment that must be put on it.

You are saying that you are not going to, in effect, write the ticket against the American ship, even though the regulation is there, because the technology is not there.

Isn't that, in effect, what you are both saying, that, "We all know that, by the law, the standard is there, but we know it is not able to be reached yet. So we are not going to enforce it in the meantime"?

Mr. SHAPIRO. Well, with respect to the ballast water provisions for the older vessels, we determined that it wasn't technically feasible to retrofit them. But, again, I don't think there was an intent to benefit one nation versus the other in our process.

Mr. MEEHAN. If it is not technologically feasible, then are you by the rules then underwriting what would be older vessels that create a greater risk than the newer ones?

Mr. SHAPIRO. Well, the net result of that finding is that the older vessels would not have the ballast water systems in them.

Mr. MEEHAN. Well, then, we are not accomplishing the very thing that you are trying to create the whole thing for in the first place. Isn't that right?

Mr. SHAPIRO. Well, as new vessels continue to move into the trade, ultimately, we will achieve——

Mr. MEEHAN. But you are creating a regulation that is encouraging the continuation of older, ostensibly more threatening vessels.

Mr. SHAPIRO. Well, in my experience as a regulator, in a number of different programs, we often find that, given the way our statutes ask us to make decisions, it is necessary to address new sources in a somewhat different way than existing sources because of the difficulties and costs associated with retrofit. So I don't think this is an unusual circumstance. But, again, I would be happy to go back and look at it.

Mr. MEEHAN. I know my time has expired, Mr. Chairman. Thank you.

Mr. LOBIONDO. Mr. Shapiro, when can we expect the EPA will release a final Small Vessel General Permit?

Mr. SHAPIRO. Well, as I mentioned in my testimony, it is currently at interagency review. That process is ongoing.

Our goal has always been to issue the final Small Vessel General Permit well in advance of the expiration of the current moratorium at the end of this year.

We are trying to move the process along as effectively as I can, but I cannot give you a specific date at this point.

Mr. LOBIONDO. That is about as ambiguous as we can get.

I am not trying to be contradictory here, but I would ask you to put yourself in the position of one of us, who has constituents who come to us and ask for some degree of certainty on how they can conduct their business, and we look totally inept that we can't give them any answers at all.

We can't give them any timing. We can't tell them we come up with a single standard. We can agree to do a single standard, not necessarily what it is. We just—I mean, it is very frustrating.

Mr. Shapiro, one more question.

Many of the proposed management practices are impossible to comply with, especially for fishing vessels. For example, the EPA prohibits the discharge of unused bait unless that bait had been caught in the same water body, but "water body" is not defined.

So would this prohibit fishermen in the Gulf of Mexico from using as bait mackerel and herring caught in New Jersey?

Mr. SHAPIRO. That provision, which—appeared in one version in our draft Small Vessel General Permit, but also in our final 2000 permit, and in that case it applies to live bait only, not to all bait. But I think that there is, as you point out, a condition in there that basically talks about going from one water body to another.

In the situation you are referring to where there is a substantial distance and certainly different environmental conditions, we

would view that as a different water body. However, there are other questions that have been raised regarding that that will probably need some clarification.

Mr. LOBIONDO. So we just don't know, I guess, is—I mean, "water body" not being defined, so the Atlantic Ocean, is that a water body? I mean—or is it that we don't define that?

Mr. SHAPIRO. Well, you are correct that there is ambiguity in that language, which we will work on clarifying.

Mr. LOBIONDO. Mr. Grundler, from the record before us, it is pretty clear the EPA did not take smaller coastal vessels, such as certain self-unloading bulk carrier vessels, into account when it promulgated this rule.

Can you tell us what the EPA is doing with these and other vessel classes that it did not consider when promulgating the rule, the ECA.

Mr. GRUNDLER. Sir, I have to correct the record.

We certainly did take into account all vessels operating within this zone when we did our complex and, frankly, very rigorous economic analysis and air quality analysis.

So all vessels that travel our shores were considered when we did our inventory assessment and then the air quality model.

Mr. LOBIONDO. Mr. Garamendi?

Mr. GARAMENDI. Thank you, Mr. Chairman. A couple of things, just some housekeeping.

I had asked the chairman of the California Air Resources Board to attend the meeting and to speak on this issue from the California perspective. She was unable to attend, but there is a letter I would like to have unanimous consent to enter into the record.

Mr. LOBIONDO. Without objection, so ordered.

[The information follows:]

Air Resources Board

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Matthew Rodriquez
Secretary for
Environmental Protection

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Governor

February 28, 2014

The Honorable Duncan Hunter
223 Cannon House Office Building
United States House of Representatives
Washington, D.C. 20515

The Honorable John Garamendi
2438 Rayburn House Office Building
United States House of Representatives
Washington, D.C. 20515

The Honorable Janice Hahn
404 Cannon House Office Building
United States House of Representatives
Washington, D.C. 20515

Re: March 4, 2014 Hearing of the House Committee on Transportation and Infrastructure, Subcommittee on Coast Guard and Maritime Transportation

Dear Representatives Hunter, Garamendi, and Hahn:

I am writing to express our strong support of the North American Emission Control Area (ECA), and urge you to oppose any effort to weaken, delay, or limit the existing ECA requirements. I understand that the Canadian Steamship Lines (CSL) may present a proposal at the March 4, 2014 hearing to weaken the 2015 ECA air pollution control standards. The ECA, a provision of the International Maritime Organization Annex VI, includes emissions standards for 2015 that require ships to use a cleaner fuel within 200 nautical miles (nm) of the coastline of the United States and Canada.

CSL is requesting that the United States Environmental Protection Agency (U.S. EPA) modify the ECA requirements to weaken the standards for ships with smaller engines. Currently, the ECA requires ships to use fuel with no more than 10,000 parts per million (ppm) sulfur when they are within 200 nm of the coast. In 2015, the ECA sulfur limit will drop to 1,000 ppm sulfur (2015 ECA clean fuel). The CSL proposal requests the use of 1,000 ppm sulfur fuel out to 50 nm and 10,000 ppm sulfur fuel from 50 nm to 200 nm.

Ships are significant contributors to onshore air pollution in California. Over 80 percent of California's population is exposed to harmful emissions from ships, and substantial reductions in ship emissions are needed to reduce exposures and help attain State and federal air quality standards. The ECA is an important component of our strategy to

reduce emissions from ships and, if weakened, would impact the State's ability to meet mandated air quality standards.

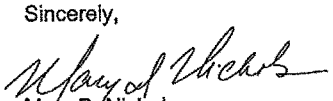
During the development and promulgation of the ECA, U.S. EPA completed complex and extensive modeling which showed that the emissions from ships in the 200 nm zone have significant onshore air quality impacts and those impacts extend far inland. This modeling supports the need to reduce emissions in the 200 nm zone.

CSL may cite California Air Resources Board clean fuel standards for ships that extend from the coastline to 24 nm offshore[1] to support CSL's claim that restricting the 1,000 ppm sulfur fuel standard to ships operating within 50 nm of the coast is adequate. This would misrepresent the Board's intention. The California regulation was developed as a bridge measure in the interim period before the ECA standards were implemented and with the expectation that the ECA clean fuel standard would be in place in 2015. The California regulatory zone was established to address the unique challenges that California needed to consider when regulating an international fleet of ships for the first time and should not be used to support weakening the ECA standards.

In closing, I urge you to oppose any efforts to weaken the approved ECA. The California Air Resources Board fully supports the 2015 ECA clean fuel standards and believes U.S. EPA can work with CSL to find options that are acceptable under the ECA without weakening the existing requirements. Your support will preserve the essential health protections provided by reducing harmful ship emissions for the residents of California, including those living in disadvantaged communities near our major seaports.

If you have any questions or comments regarding this matter, please contact me or my Legislative Director, Jennifer Gress, Ph.D., at (916) 322-8520 or jgress@arb.ca.gov.

Sincerely,



Mary D. Nichols
Chairman
California Air Resources Board

cc: Jennifer Gress, Ph.D.,
Legislative Director

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[1] The California requirements apply within a 24 nm zone offshore which includes the Channel and Farallon Islands. Because of this, in Southern California, the zone extends over 100 nm at its widest from the California coastline and about 60 nm from the coastline by the Farallon Islands in Northern California.

Mr. GARAMENDI. And, also, a letter from Saltchuk Resources on the same issue.

Mr. LOBIONDO. Without objection, so ordered.

[The information follows:]

SALTCHUK
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CHRISTOPHER A. COAKLEY
Vice President of Government Affairs

March 2, 2014

The Honorable Duncan Hunter (R-CA)
Chairman
House Coast Guard and Maritime
Transportation Subcommittee
U.S. House of Representatives
Washington, DC 20515

The Honorable John Garamendi (D-CA)
Ranking Member
House Coast Guard and Maritime
Transportation Subcommittee
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Hunter, Ranking Member Garamendi, and Members of the Subcommittee:

On behalf of the over 6,000 employees of Saltchuk companies nationwide, we wish to thank the Committee for holding its hearing on *Maritime Transportation Regulations: Impacts on Safety, Security, Jobs and the Environment, Part II.* Saltchuk and its subsidiary companies rely on Congress to ensure consistency and fairness in the laws and regulations that affect freight transportation and petroleum distribution nationwide.

The uniform application of federal law promotes a competitive marketplace and lowers the risks for American companies that make large capital investments into enduring assets like containerships or tugboats that can operate for over 30 years. The enforcement of the North American Emissions Control Area by the U.S. Coast Guard has been a catalyst for some American companies to construct or convert Jones Act vessels to use clean-burning natural gas as fuel. The related shipyard work is creating over a thousand jobs at American yards.

TOTE, Inc., a subsidiary of Saltchuk, is located in Princeton, NJ. It operates a portfolio of companies organized in four lines of business; maritime, logistics, shipholdings, and services. TOTE Maritime companies Totem Ocean Trailer Express and Sea Star Line bring unmatched reliability and service to the Alaska and Puerto Rico markets, respectively.

TOTE is proud to bring the world's first natural gas-powered containerships to an industry that dates back thousands of years. Our Marlin class vessels will be the most advanced, environmentally responsible vessels of their kind – reducing vessel air emissions while providing safe, reliable cargo deliveries that keep communities moving. The first two Marlin class vessels represent over $350 million in capital commitment and are being built at the General Dynamics NASSCO shipyard in San Diego. The construction will sustain more than 600 American shipyard jobs. These American-made ships are scheduled to be delivered in late 2015 and early 2016, and will operate between Jacksonville, Florida and San Juan, Puerto Rico.

These vessels mark a new age in American shipbuilding. TOTE's back to back announcements in 2012 – that it was converting its existing Roll-on/Roll-off fleet in Alaska and investing in new

containerships for the Puerto Rico trade – began what can only be described as a tidal change in the U.S. maritime industry toward LNG as the new maritime fuel. Three other American shipping companies have ordered new vessels that have the capability to burn LNG, and another company is studying the benefits of converting its existing vessels to use natural gas fuel.

LNG fuel offers unmatched environmental benefits, reducing emissions below the requirements of the North American Emissions Control Area. The new Marlin class will create a reduction of sulfur dioxide (SOx) emissions by 98 percent, particulate matter (PM) by 99 percent, nitrous oxide (NOx) and carbon dioxide (CO2) by 71 percent over TOTE's ships currently operating in Puerto Rico.

The Marlin class earned the Next Generation Shipping Award at the 2013 Nor-Shipping Conference, making TOTE the first U.S. company to take home this prestigious award.

Converting our fleet to LNG

TOTE is not just the first in the nation to build LNG ships, but we're also first to convert our existing fleet to run on natural gas. Our two Orca class vessels, operated by Totem Ocean Trailer Express (Totem Ocean) in the Alaska trade, will be converted with minimal time out of service and return as the most environmentally advanced ships in the nation. This conversion will cost approximately $150 million.

As a result of the conversion, the Orcas will set new standards for environmental responsibility by reducing sulphur oxide (SOx) emission by 100 percent; particulate matter (PM) by 91 percent; nitrogen oxide (NOx) by 90 percent; and carbon dioxide (CO2) by 35 percent.

In closing, we would like to express our deep appreciation to Chairman Hunter and Ranking Member Garamendi for their strong support of American navigation laws, especially the Jones Act. Thank you for consideration of this letter and we look forward to working with this Committee to strengthen and expand economic opportunities for the U.S. maritime industry.

Sincerely,

Christopher A. Coakley

Mr. GARAMENDI. The issue of the air quality is one that is keenly felt in California. We have a very busy maritime industry in California, and the cities, the major ports, the San Francisco Bay area and Los Angeles, are questionable attainment districts.

And so this—it turns out that this particular issue of the quality of the fuel is extremely important in that area, and I suspect it is in other parts of the Nation, although I am not familiar with those areas.

It may be a burden—and I am stating my own opinion without asking a question here because I was deeply into this a few years ago—that this is an appropriate way to address a significant source of pollution, not easy, to be sure, and one that does have costs associated with it.

But the necessity of maintaining—of obtaining an air quality standard in those two very important parts of California is going to be met by somebody.

If one or another of the industries or polluters in the area don't meet their share of the burden, then somebody else is going to have to make it up. And so we are simply shifting the cost of implementation off to somebody else. There is no reason to believe this cannot be done.

I do have some questions about the scrubbers that are available, that might be available.

Mr. Grundler, in your testimony, you mention this. Could you go into that in more detail.

Mr. GRUNDLER. Certainly. We are very well aware of the challenges that, in particular, California faces in achieving public health standards, and we work very closely with our colleagues at the Air Resources Board as well as the South Coast in developing the proposal that United States and Canada took to the IMO.

So you are right. It is not without cost. But the benefits are enormous and outweigh the cost by at least 30 to 1. The range goes from 30 to 90 to 1.

But we do certainly recognize that it is a greater burden for those vessels that spend more time in this zone than others. They have a higher burden, but they also contribute more to the pollution that is traveling onto our shore and, frankly, well inland.

What was remarkable when we did our modeling was to see how these public health benefits reach far hundreds of miles into the interior of the country and will be enjoying these benefits.

There are provisions under the treaty that provide the Coast Guard and the EPA to develop alternative compliance—lower cost compliance alternatives, and we have been exercising those flexibilities.

We have entered into permits with a number of firms, both cruise lines as well as people engaged in the coastwise trade, to explore these other technologies, including fuel switching to liquefied natural gas in several instances.

And we have ongoing conversations with other firms who are interested in LNG, other firms that the cruise lines in particular have opted to enter into a technology demonstration project to experiment with scrubbers and different ways to install those scrubbers as well as different types of scrubber technologies.

So some firms look to install them while they are actually using the vessel, thereby not interfering with commerce. Others will be installing them during dry dock. But they are quite optimistic that this will be a lower cost way to achieve the goals than buying the more expensive clean fuel.

Mr. GARAMENDI. The issue is that California has onshore winds. And so whatever is out there is coming on shore, and it creates a very substantial problem for all the industry in California.

So the air quality attainment requirement is going to be met by somebody. And so it turns out that everybody from agriculture to cars, to diesel, to the ports, is sharing the burden here. I think I will let it go at that.

Thank you, Mr. Chairman.

Mr. LOBIONDO. This will conclude our first panel.

I just hope you think a little bit about the frustration that we are feeling and, more importantly, the folks who are expected to comply are feeling and understand how we have got to get some of this resolved and do it in a manner that can give some certainty, that the people we are asking to spend a whole lot of money just don't know where we are going on all this.

So we will take a very brief recess while we can get set up for the second panel, and then we will proceed immediately.

Our second panel today includes Mr. Tom Allegretti, president and CEO of The American Waterways Operators; Ms. Kathy Metcalf, director of maritime affairs at Chamber of Shipping of America; Mr. James Roussos, Vessel General Permit coordinator for LaMonica Fine Foods and Oceanside Marine in Millvile, New Jersey; and Mr. Rod Jones, president and CEO of the CSL Group Inc.

Finally, I understand that Mr. Terry, president and CEO of Eagle Rock Aggregates, could not be here today due to a family emergency. So we will include his testimony as part of the record, and all wish him well with that family emergency.

I will proceed. Mr. Allegretti, you are now recognized. Thank you for being here.

TESTIMONY OF THOMAS A. ALLEGRETTI, PRESIDENT AND CHIEF EXECUTIVE OFFICER, THE AMERICAN WATERWAYS OPERATORS; KATHY J. METCALF, DIRECTOR OF MARITIME AFFAIRS, CHAMBER OF SHIPPING OF AMERICA; JAMES ROUSSOS, VESSEL GENERAL PERMIT COORDINATOR, LAMONICA FINE FOODS AND OCEANSIDE MARINE; AND ROD JONES, PRESIDENT AND CHIEF EXECUTIVE OFFICER, CSL GROUP INC.

Mr. ALLEGRETTI. Good afternoon. Thank you for the opportunity to testify on behalf of the American tugboat, towboat, and barge industry and our partners in the Shipping Industry Coalition, who together represent 90 percent of all vessels calling at U.S. ports in both domestic and international commerce.

My testimony today will focus on one critical area, the regulation of ballast water and other vessel discharges, in which the current regulatory regime serves neither the economy, the environment, nor the American taxpayer well.

Today the Coast Guard and EPA regulate ballast water and other vessel discharges under 2 differing statutory authorities, and because neither Federal statute preempts State action, more than 2 dozen States have established their own State-specific requirements for many of those same discharges, over 150 of them in all.

This overlapping patchwork of Federal and State regulations makes compliance complicated, confusing, and costly for vessel owners and for mariners. It is counterproductive to the goal of enhanced environmental protection as companies have delayed investment in costly treatment technologies because they lack assurance that such systems will be acceptable wherever a vessel calls, and it has forced Federal and State agencies to duplicate efforts and expend significant time and taxpayer money in an unsuccessful effort to harmonize their requirements. This is a poster child for needed congressional reform.

Today—and we have an illustration here for your information—a tug barge unit moving crude oil from Puget Sound, Washington, to the port of Richmond, California, must comply with requirements for vessel discharges established by both the Coast Guard and EPA. The same vessel must also comply with 25 State-specific conditions added to EPA's Vessel General Permit by Washington and California. In addition, the vessel must comply with State ballast water requirements established by Washington, Oregon, and California, outside the framework of the VGP.

The situation is untenable, it is unnecessary, and bipartisan congressional leadership is badly needed to fix it.

I hope that this example illustrates why the current situation is untenable. Let me explain what I mean when I say that it is unnecessary. Over the past 3 years, there has emerged a national scientific consensus about the capability of currently available ballast water treatment technology. Scientific experts, the Coast Guard, EPA, and the States, all of the States, are now in agreement on the ballast water treatment standard that is achievable with current technology. Last June, the California State Lands Commission acknowledged that the State's ballast water treatment standard could not be met with the best technology available today, and the California Legislature then acted to delay implementation of its State's standards.

Unfortunately, the scientific consensus has not yet solved the problem faced by vessel owners. Despite the fact that the Coast Guard, EPA, and the States now agree on a ballast water treatment standard, Federal and State regulators have been unable to eliminate overlap and inconsistency between their regulations. This is because, as you heard, they are accountable to different statutory authorities which they believe limit their flexibility to act.

It is not too much to say that governmental agencies have been set up to fail by a statutory framework that does not work. This should be unacceptable to all of us. Congress can rectify the situation. You can fix this problem and establish a single national framework for the regulation of vessel discharges in which vessel owners are subject to one set of scientifically based, environmentally protective and technologically achievable vessel discharge rules. You can pass legislation that provides vessel owners with the certainty that multimillion-dollar investments in ballast water

treatment technology will be acceptable wherever that vessel calls. And, you can save the American taxpayer the wasteful expense created by duplication of effort among Federal and State agencies that will never be able to harmonize their regulations fully unless the statutory framework under which they operate is changed.

Chairman LoBiondo and Ranking Member Garamendi, we implore you to take action. We thank you for your leadership in holding this hearing. We stand ready to work with you to enact legislation that is good for the marine transportation industry, good for the marine environment, and good for the American taxpayer.

Thank you very much for the opportunity to testify.

Mr. LOBIONDO. Thank you, Mr. Allegretti.

Ms. Metcalf.

Ms. METCALF. Thank you, Mr. Chairman. We would request that our testimony be entered into the record, our written and oral testimony as well.

I am Kathy Metcalf, director of maritime affairs for the Chamber of Shipping of America. Today I am also testifying on behalf of INTERTANKO and the Cruise Lines International Association, or CLIA. A full detail of our members' credentials are contained in the written testimony, and I won't take my time up to go through that at this point.

We are, all three of these organizations, are also members of the Shipping Industry Coalition that Mr. Allegretti alluded to. As such, we are fully supportive of the comments he has just provided to you, so I will try not to duplicate any of that.

The fundamental tenet of our approach to these environmental issues has always been smart legislation and regulation discussed by all the stakeholders can result in smart and effective legislation and regulation.

Aside from the challenges associated with the sheer volume of initiatives impacting the industry, the issues are further complicated by the fact that a number of executive branch agencies are involved in rulemaking processes. And that, honestly, is quite justifiable to be sure that there is, in fact, an administration sign-off on a very impactful regulatory process.

For example, the U.S. approach to regulation of greenhouse gases is led by the State Department at the international level, while EPA is also developing domestic problems to address greenhouse gases. Now, while we understand the need for a unified U.S. position on this issue, it is critical that the nature of the sources being considered as we move this issue forward at the Federal and international level take into account the differences between stationary and mobile sources, something I would suggest probably was not fully appreciated when the EPA was forced to regulate ballast water discharges as well.

With these many significant and diverse requirements, we offer two specific examples where we will believe smarter legislation and regulation would benefit everyone. First, with regard to vessel discharges, as Mr. Allegretti discussed, ballast water and the other discharges, quite frankly, are included in the EPA's program because a court said that the exemption that had been 35 years in existence was not legally applicable, and thus vessels would have to be included in this program. This is a program that was never

anticipated to include things that move versus things that sit on the shore. So a lot of the problems that we are seeing now with vessels in the NPDES program is a result of that.

Also, as was discussed earlier, the extension issue where the Coast Guard will issue the extension, but EPA cannot or will not be legally bound by it, we congratulate the Coast Guard and the EPA for doing everything they possibly could to reconcile the two sets of regulations. Looking at the proposed VGP and the Coast Guard regulations versus the final VGP, they have gotten rid of a lot of conflicts that were there, not the least of which was the definition of "dry docking date" that was 2 years apart.

So they have done a lot of work on this, but in our opinion, EPA is legally constrained by what they can and can't do to individual sources that are covered under a general permit.

Second example is requirements associated with the creation of the North American Emissions Control Area. We are not here to suggest that the ECA, or the ECA, was a bad idea or is a bad idea. It is clear from EPA's modeling there are going to be significant improvements in air quality as a result of this. However, for a number of ships, particularly those engaged in coastal trade, the significant increased costs associated with the use of currently the 1 percent fuel and, in 2015, .1 percent fuel can be mitigated by the installation of scrubbers, which allow you to continue to use a higher sulfur fuel, but to have reduced emissions consistent as you would with an engine using low-sulfur fuel without the scrubber. However, EPA's Vessel General Permit covering exhaust gas scrubber discharges prevents the use of a mixing zone to measure the discharge effluent, such that most of the scrubbers that are being designed globally for use on ships will likely not meet the EPA discharge requirements, taking away a very cost-effective alternative to the use of fuels.

We also know that we are going to see an increase in the cost of fuels. Thus far with the 1 percent, we have seen somewhere between the neighborhood of 10 and 30 percent. When it goes to .1 percent, hold onto our hats, because we believe we are going to see premiums in the 50 to 60 percent range.

I see my time is up. I thank you for the opportunity to chat this morning.

Mr. LOBIONDO. Thank you, Ms. Metcalf.

Mr. Roussos, you are now recognized.

Mr. ROUSSOS. Chairman LoBiondo, Ranking Member Garamendi, I am responsible for managing the NPDES Vessel General Permit, VGPs, for our fleet of five clam boats at LaMonica Fine Foods and Oceanside Marine in southern New Jersey.

Several of our boats, which are 85 to 100 feet in length, will be subject to the requirements for ballast water, and all of them for incidental discharge. I want to fully thank this entire subcommittee and Mr. LoBiondo for keeping this unnecessary burden off of our backs for years and for moving H.R. 4005, which will permanently exempt the fishing industry from this permit. We appreciate your efforts and hope that the House and Senate will follow suit, because the new VGP requirements are being applied to the fishing industry with little merit. Under the guise of environmental legislation, they achieve no real positive environmental results. They

serve only to make it harder for fishermen to fish and harder for this industry to attract qualified, career-seeking individuals.

I want to be clear that these new requirements are not the result of any wrongdoing by our industry. The requirements are a result of the 2006 lawsuit brought by environmentalists over ballast water. Unfortunately it produced a whole new set of regulations that are excessive, burdensome and ineffective.

The incidental discharges from our vessels were originally exempted from the Clean Water Act and the citizen lawsuit provisions, but this change with the 2006 lawsuit. Should our exemption not be reinstated, our small fishing business and many others like us will be exposed to substantial reporting and monitoring requirements, the potential for citizen lawsuits, and harsh punishments that will prove costly.

Please understand that those of us in the business of harvesting food for the benefit of this Nation do so in a hostile environment. We are under constant scrutiny by environmentalists who petition or sue the Federal Government on a regular basis to increase environmental protection and restrict fishing activities.

We have already filed two lawsuits on this issue, so we fully expect the citizen lawsuit provision will be used against us. Environmental regulation by litigation is out of control and could potentially cripple our industry. Congress correctly and permanently exempted 13 million pleasure boats in this country from the regulations, but did not permanently exempt commercial fishing vessels even though the environmental risks are no greater for commercial fishing vessels than pleasure craft. In fact, fishing vessels are less likely than pleasure boats to be the carrier of invasive species, for example, because our boats do not travel to foreign destinations or between bodies of water. We typically fish in a very small area of the ocean, usually leaving and returning to the same port.

So 13 million pleasure craft, including 125-foot yachts, are exempt from this regulation; but our smaller clam boats and a 38-foot gillnetter out of Puget Sound in Washington—sorry, out of Viking Village, New Jersey, and the 24-foot salmon boat on Puget Sound in Washington, as well as an 18-foot open skiff on the Chesapeake Bay all will be subject to the new discharge regulations. This is not fair or logical.

Despite our best efforts to make sensible changes to the regulations, we are left with troubling issues related to some details of the permit. Frankly, the VPG attempts to solve problems that don't exist or even make common sense; for example, the requirement to collect refrigeration condensation or having to wash the anchor and chain thoroughly every time it is used, or the fact that naturally occurring fish slime combined with seawater is now an effluent, and consider that too much vegetable oil in the galley sink dishwater and too many crew showers while at dock would now be violations of Federal law.

These permits are not written for the facile use of fishermen for whom it was intend to regulate. Many will have to hire lawyers or consultants to navigate the ridiculously complicated reporting requirements in attempts to comply. If they do not, then they risk being fined out of business. The permit, if inflicted upon the fishing

industry, will only add more paperwork and bureaucracy, further demoralize our workforce, and cause economic hardship.

For the sake of our fishing industry and coastal economies, we respectfully request permanently extending the moratorium for the NPDES permits for commercial and charter fishing vessels and fairly treating our vessels like 13 million sport boats that are already exempted.

We appreciate your leadership and the hard work that Mr. LoBiondo and Mr. Larsen are doing to rectify the situation for the long term, and we strongly support their efforts and encourage all Members to join with them.

Mr. LoBiondo, Ranking Member Garamendi, members of the subcommittee who aren't here, thank you for the opportunity to speak to you today.

Mr. LOBIONDO. Thank you, Mr. Roussos.

Mr. Jones, you are now recognized.

Mr. JONES. Good morning, Chairman LoBiondo, Ranking Member Garamendi. My name is Rod Jones, and I am president and CEO of the CSL Group. I appreciate the invitation to speak to you today about the North American Emission Control Area, or ECA, and its unintended consequences. I am pleased to represent our Massachusetts-based U.S. operations, where we specialize in the coastal shipping of strategically important cargoes such as iron ore, coal, petroleum coke, road salt, aggregates and gypsum.

I also speak for the Maritime Industrial Transportation Alliance, or MITA, which is a coalition of industry members who rely on the safe and efficient, environmentally smart short sea shipping. ECA is designed to reduce emissions of nitrogen oxide, dioxide particulate matter and sulfur dioxide. It creates a 200-mile zone around the United States and Canada where, as of 2012, ships must use fuel with no more than 1 percent sulfur. In 2015, ECA sulfur levels will be dramatically lowered to .1 percent for all ships, again out to the 200-mile limit regardless of size.

My primary point is that the 200-mile ECA boundary was established for all ship sizes without firm scientific rationale. It did not differentiate between large oceangoing ships and smaller short sea vessels. The engines on these smaller ships emit much lower amounts of pollutants.

Intuitively it doesn't make sense that all ship sizes would have the same onshore impact, so putting our intuition to the test, we commissioned a scientific study using the same or similar models as those relied on by the EPA. The resulting study examined the emissions and movements of sulfur dioxide, which is the main pollutant emitted from sulfur found in fuel. The study shows the coastal air quality impacts diminish as expected. The ships move away from the coast with a sharp drop in impact at about 40 miles off shore. However, it also shows that short sea ships with propulsion systems of under 20,000 horsepower have negligible air quality impacts on the shore when they are only 50 miles at sea.

The EPA's forecast that the new ECA limits would impact vessel operating costs by about 3 percent may be correct for transoceanic voyages, but it is plain wrong for coastal voyages. Smaller short sea ships operate almost completely within the ECA, requiring extended or in many cases exclusive use of the highest priced fuel.

The EPA did not consider short sea ships as a sector, and equally the EPA didn't weigh the benefit that that short sea shipping provides by reducing truck and rail emissions and their associated social impacts, particularly road congestion and infrastructure wear and tear.

Furthermore, our efficient self-unloading ships discharge very, very quickly and typically reduce unload port stays from 4 to 5 days to often less than a day. No matter the size of the eco zone, ship emissions are most damaging when the ship is in port, and our self-unloading ships are in port for less time than any other bulk vessel.

When we last addressed the subcommittee in 2012, we projected a fuel cost increase for our sector of at least 40 percent in 2015. We were correct; .1 percent sulfur fuel is now as much as 40 percent higher than intermediate fuel. And we underscore that these aren't predictions, but actual market prices. Under the 2015 ECA, we estimate that our fuel costs will increase over $14 million per year. Now, this would be OK if it would result in a significant environmental benefit; however, for almost no incremental benefit, as our scientific study has proven, it is an unacceptable cost burden for our customers.

CSL estimates that the 2015 ECA limits will force us to raise our rates by about 35 percent in most trades. Many of our customers cannot absorb these freight rates. Despite well-documented social and environmental benefits of short sea shipping, consumers will obviously opt for the lowest cost, which will mean more trucks and trains. Bill Terry was expected to testify on this here today, but unfortunately, as you mentioned, he was unable to make it.

As environmental stewards, CSL supports the aims of ECA. We simply disagree, based on our scientific study, with the EPA's policy prescription. Smaller, cleaner ships should not be lumped together with much larger ships. Specifically we propose that in 2015, when the sulfur standard reduces to .1 percent, the EPA reduce the 200-mile ECA to 50 miles for ships of less than 20,000 horsepower, while continuing to require the use of 1 percent sulfur fuel between 50 and 200 miles.

In addition, MITA continues to advocate congressionally supported dialogue with the EPA to explore other impact-based alternatives.

Chairman LoBiondo, distinguished Members, clean air is the responsibility of all users of fossil fuels, and the shipping industry is no exception. We support the ECA to help improve air quality, but vigorously challenge the 200-mile boundary for smaller ships. We urge the Coast Guard and the EPA to work with MITA to find a compromise solution that does not add unacceptably high costs to our customers' businesses with almost no incremental environmental benefit.

Thank you.

Mr. LOBIONDO. Thank the panel.

Mr. Garamendi.

Mr. GARAMENDI. With regard to the air quality issue, the question arose as to, Ms. Metcalf, about mixing zone and scrubbers. Could you go into that quickly?

Ms. METCALF. As an ex-mariner, I will go into it with the level of scientific detail that I have been equipped with with my mariner education.

Essentially what it means is that how you measure an effluent, an overboard discharge from a ship, whether it is right at the side of a ship, or whether it is in a 3-foot radius outside the ship——

Mr. GARAMENDI. I understand that mixing zone. The mixing zone I thought you were referring to was associated with scrubbers, which I think is the air quality issue. If that is not the case, then I just——

Ms. METCALF. Yes, sir, it is. The IMO development of effluent scrubber guidelines would permit the use of a mixing zone to determine if you met the effluent standards. It is our understanding the EPA regulations relative to measurement of that effluent do not. So you are going to have a world full of scrubbers out there that could be installed as a cost-effective alternative to low-sulfur fuels, but not be passable under the EPA's effluent guidelines.

Mr. GARAMENDI. You look like you want to jump in.

Mr. JONES. Well, I just think she was talking about the effluent from the overflow of the chemicals that are created when you scrub, not from the air itself, so I think that might have been the misunderstanding.

Mr. GARAMENDI. Thank you. Clearly I didn't quite catch what you guys were talking about here.

It seems to me that there is a solution to that problem. You can find a way to it. The point here really is scrubbers. Can we get to scrubbers? And do they work? Are they effective? The argument basically made by Ms. Metcalf was that scrubbers are economically desirable compared to the cost of the fuel. Do you agree?

Mr. JONES. Yes. I think in most cases they would be economically desirable. CSL has put a scrubber on one of our ships. These are in developmental stages right now. They don't work as well as they are being advertised yet, and there is some differences between cruise ships, which have a lot of room on them, and our old ships, which are very small, and it is very difficult to install. So it is something that we are considering doing and we think should be done in some certain cases, but it also will not improve the air quality any more than what we are able to demonstrate by being 50 miles offshore, so for us it doesn't seem to be worth it.

Mr. GARAMENDI. Let me get to that question. You have a study. The EPA has a study. Have you submitted your study to the EPA for their review, and analysis and comment?

Mr. JONES. Yes, we have had discussions with the EPA on our study. They don't necessarily agree with us on most of the study. They felt that we should have included NOx in the study. But NOx we are not disagreeing with. We are not saying we would do anything different on NOx. NOx has been legislated as an engine issue, and that is something that we just don't disagree with.

They also felt that our CALPUFF model was not completely appropriate, and I can't get into the science on this. We have a Ph.D. who understands it, but our scientists feel very strongly that it is.

Mr. GARAMENDI. It is really important for me, for a policy point of view and for decisions here, to have a clarity of the differences

in view of the two studies. If your study is valid, then you have got a good argument. If it is not valid, then you don't.

There is another thing that is going on, at least on the west coast, and that is cap and trade. And your industry will be involved in that also, and I think certainly California is there, and there is somewhat of an agreement between the three coastal States on that matter, which might change this entire argument. I would appreciate your comments on that, at least insofar as the west coast is concerned, but not right now. If you could provide written comments to us about how that might affect this, I think it may significantly affect it.

Mr. JONES. Yes. I think it is a different issue, but I will make comments on that and try to tie it together.

Mr. GARAMENDI. Please. I don't want to tell you how to do it, but if you are going to a lower, you may be significantly reducing carbon along the way and which you can trade and pay for the fuel or the scrubbers, but I will leave that to you.

The other question has to do with—Mr. Allegretti, with regard to the ballast water. We had a long discussion here earlier with the previous panel about how they might integrate their activities. Do you have any comment about that discussion we were having here; and specifically, can those businesses that are developing the mechanical solutions or solutions to ballast water, why are they not pushing that issue forward with the Coast Guard?

Mr. ALLEGRETTI. I don't know that I can speak to the issue of why companies are not pushing the technology with the Coast Guard. My observation on the conversation that you heard between Admiral Servidio and Mr. Shapiro is—and I think, you know, they were being careful and polite, but they were telling you that they have worked to the very best of their ability to reconcile the differences between their two ballast water standards, and what they have produced today is as good as they feel they can get. The gaps that exist between the two are apparently gaps that they don't feel they can reconcile, given the differing requirements of the two statutes under which they operate. I think it points up the need for a single national Federal standard.

As I listened to that conversation, Mr. Garamendi, I really was thinking about it from the perspective of a vessel owner who is facing a multimillion-dollar investment in this technology and asking himself, am I prepared to make this investment with this lack of certainty from the Government agencies that are regulating the program?

Mr. GARAMENDI. I understand and appreciate that point. I think I heard it slightly different, that they were looking at the—that these systems, once certified, meet the EPA requirements. Then the question is one of monitoring, and I find it difficult that they could not figure out how to monitor in a coordinated fashion or exactly the same way. If they can't, then surely there is a slight tweak to one of the other laws that would cause that to happen.

But I don't—and I don't have a clear answer now about why these systems are not being pushed forward. It would seem to me that there is a business opportunity here that somebody seems to be missing, because apparently these systems are going to go into

place at some point, and that doesn't speak to the issue between the two laws, but rather just the Coast Guard itself.

We will have to find out an answer to that, and I don't think I am going to get it from the witnesses here. I guess I am right.

I think I have run my time. I have got a lot more questions, but I think I will put those in writing to the Coast Guard and the EPA. Specifically I would like some more information on the scrubbers if you can handle it. And if you could also—well, we will ask the EPA and you to provide me with specific information on the study that you did and the way it works. If you would do that, Mr. Jones, I would appreciate it. Thank you.

Mr. LOBIONDO. John, if you want some extra time, or are you pressed to go?

Mr. GARAMENDI. Well, let's just say it is all of the elected officials from my district that are outside that door. Maybe I should stiff them? I can blame it on New Jersey.

Mr. LOBIONDO. Blame it on New Jersey. Thanks, John.

Mr. GARAMENDI. Thank you.

Mr. LOBIONDO. So for Mr. Allegretti and Ms. Metcalf, we have talked about this a lot, but can you just tell us in sort of simple terms so we can maybe disseminate this to our colleagues why it is necessary for Congress to act to establish a single Uniform National Discharge Standard?

Mr. ALLEGRETTI. In simple terms, the system under which we operate today does not work. It is not good for industry, it is not good for the environment, it is not good for mariners, it is not good for the companies.

That illustration there is only three States. Imagine a tugboat going down the Ohio and Mississippi rivers from Pittsburgh to New Orleans. It is going through the jurisdictions of 11 States and facing that kind of complexity. You have regulations coming at the industry from four separate vectors, the EPA, Coast Guard, the States in VGP State-specific conditions, and then the States as they legislate outside the framework of the VGP. It is an operational nightmare for a vessel owner to ensure that he is in compliance with that system as he moves from one State line to another. Also it is legally treacherous for companies, and it is legally treacherous for mariners to operate within this system.

Mr. LOBIONDO. Yes.

Ms. METCALF. I will take 30 seconds, Mr. Chairman, if I could.

There is a precedent that this Congress has done a number of years ago, and that is the Uniform National Discharge Standards rule, the UNDS rule, that is applicable to Armed Forces vessels.

I want to be sure that we have not been misleading you as far as terminology goes, but for the 401 State certifications as part of the Clean Water Act and VGP program, the performance standard that the Coast Guard and EPA have established is the same standard. So the big machine, the big concept, there is a lot of consistency with, but it is in the nuts and bolts of the implementation where some of the disconnects are occurring.

So as Mr. Allegretti said, that if we could create one Federal program under an appropriate statute that regulates vessel discharges and preempts State actions, then we have that consistency, much like the UNDS program created for the Armed Forces vessels.

Mr. LOBIONDO. OK. Mr. Roussos, we talked about it, and the EPA has recently announced a new Small Vessel General Permit which will apply to commercial fishing vessels. In your view, are some of these proposed new management practices even feasible? Can it work?

Mr. ROUSSOS. From what I know now, having read what I have read and the research—I was charged with the VGPs for our company and spent scores and scores of hours trying to decipher what it was that they were trying to accomplish, what they were trying to permit, and what their objective was. And it is greatly obfuscated what they are attempting to do, but what is clear and was clear was that the recordkeeping was ridiculous and with no apparent benefit.

So do I think it is possible to implement with the guy that has got the open boat trying to make a living, working as a one-man business? Where is he supposed to put these records? How is he supposed to do it?

These are people—you know, these are some of the hardest working people you are going to find anywhere in America. They have done it the way their fathers have done it and their grandfathers have done it. The industry has evolved in the over 200 years that it has been around, but it is not going to evolve any more with a hammer. You can't beat it into them. We need education. We need resources.

It is an onerous document that is doomed to failure, or if you want to talk about evolution of fishing, there is going to be a lot of dead ends in that evolution. There is going to be a lot of people that are going to go extinct because of this permit as I understand it now.

Mr. LOBIONDO. Could you even venture a guess as to what these new regulations would cost the fishing industry, or is it kind of too hard to get the brain around?

Mr. ROUSSOS. I haven't approached it from that point of view. I couldn't venture a guess.

Mr. LOBIONDO. OK. Mr. Jones, can you tell us what your costs have been to comply with the EPA—or ECA, sorry?

Mr. JONES. The 1 percent sulfur requirement that is in place now? Actually I can't give you that off the top of my head here, but I can say we consider those costs to have been manageable. The difference between our old sulfur and the 1 percent sulfur has been something like—I think it is like $30 a ton or something like that, and we have been able to program that into our program, and our customers have been able to record that. It is the $300 to $400 a ton that is what is really scaring us.

Mr. LOBIONDO. And I think you alluded to this, that there is a real fear and a real possibility that shippers could decide to move cargo by other means with this?

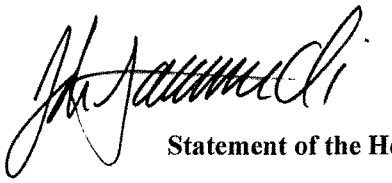
Mr. JONES. Yes. These are very low-value commodities. This is like aggregate that is used for road construction. So the transportation is sort of more than half the cost of the delivered product, so if we increase that cost significantly by 30 or 40 percent, we have been told by our customers that they will not be able to move that cargo by ship anymore, and there will be movements by other modes of transportation.

Economic theory, if you raise the price of something, something else will substitute in to move it. So it is very difficult to pin down exactly what that is, but we are quite concerned and quite convinced that we will lose a big part of the business that is currently moving by ship to other forms of transportation because of mobile or sourcing shift. It may be that instead of moving the product to one place, it will be sourced from another closer place and moved by truck, for instance.

Mr. LOBIONDO. This is certainly one of the concerns that at least some of us have, and as we struggle in the next few months to try to come up with some kind of a solution for the highway bill, it almost further underscores that with not being able to come up with enough money for highways, you are not actually asking for money, you are asking for certainty and regulatory relief here, which could help balloon out a problem—keep from ballooning out a problem at the other end if we could just be sensible, because in many respects, especially with the short seas shipping, this makes sense for America, it makes sense for shippers. And it is very, very frustrating to deal with the bureaucracy from our standpoint when that which is so obvious to so many, just is—we can't get to a conclusion on it.

So unless any of you have any last comments, I want to thank you very much for being here today. I assure you on behalf of Chairman Hunter and the rest of the subcommittee that this is an issue we will continue to try to find a way to get you some relief. And the committee now stands adjourned.

[Whereupon, at 4:46 p.m., the subcommittee was adjourned.]



Statement of the Honorable John Garamendi

Subcommittee on Coast Guard and Maritime Transportation Hearing on "Maritime Transportation Regulations: Impacts on Safety, Security, Jobs, and the Environment; Part II" March 4, 2014

Good afternoon, Mr. Chairman, and thank you for rescheduling this hearing, the second in a pair of hearings to examine the status of environmental regulations affecting maritime transportation. These matters are important. I look forward to learning more about the status of the Coast Guard's and the Environmental Protection Agency's rule making activities.

As I have stated before, making sure that Federal regulations are targeted, fair and reasonable is necessary to ensure that the ongoing recovery of the U.S. economy continues to gain traction, and that the U.S. maritime industry remains a vibrant source of job creation. My constituents expect nothing less.

In particular, Mr. Chairman, I will be interested in hearing from both the Coast Guard and EPA on what challenges remain in implementing their respective rules to address the issue of ballast water discharges into the waters of the United States.

According to the National Oceanic and Atmospheric Administration, every year more than 21 billion gallons – or 40,000 gallons per minute – of ballast water drawn from abroad are discharged into U.S. waters. Moreover, every day, an estimated 10,000 marine species are transported around the world in ballast water. The current number of invasive species in San Francisco Bay is 212, with a new species appearing every 14 weeks.

Unfortunately, the ecological havoc caused by this invasion is likely to only become worse in future as the spread of invasive species has increased with the expansion of global trade; a trend that is likely to be accelerated by global climate change.

We need to know what challenges might lay ahead this year when EPA begins to implement its Vessel General Permit (VGP). I will also want to hear from the Coast Guard on its forecast for the type-approval of Ballast Water Treatment Systems to allow shipping lines to comply with both the Coast Guard's ballast water discharge regulations and with EPA's VGP requirements.

I will also be interested to hear from EPA and witnesses from the maritime industry about EPA's ongoing implementation of its rule implementing the North American Emission Control Area (ECA).

Intended to reduce vessel emissions in coastal air sheds and improve air quality and public health, the ECA is a vital contributor in California's strategy to meet its air emission reduction targets.

It is important that we understand how the rule is working, how the industry is adapting during the transition to meet low sulfur fuel standards, and whether we can expect any shortage in the supply of low sulfur fuel for vessel operators.

Thank you again, Mr. Chairman, for rescheduling this afternoon's hearing. I look forward to hearing from our witnesses.

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TESTIMONY OF
REAR ADMIRAL JOSEPH A. SERVIDIO
ASSISTANT COMMANDANT FOR PREVENTION POLICY

ON
"MARITIME TRANSPORTATION REGULATIONS:
IMPACTS ON SAFETY, SECURITY, JOBS AND THE ENVIRONMENT, PART II"

BEFORE THE
HOUSE COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE
SUBCOMMITTEE ON COAST GUARD & MARITIME TRANSPORTATION

MARCH 4, 2014

Introduction

Good morning Chairman Hunter, Ranking Member Garamendi, and distinguished members of the subcommittee. It is my pleasure to be here today to discuss the Coast Guard's environmental regulations.

This testimony augments testimony I provided on September 10, 2013, which broadly addressed the Coast Guard's regulatory development program. Specifically, I will discuss the subset of Coast Guard regulatory development efforts addressing environmental protection.

Coast Guard Environmental Focus

Approximately 43 percent of active rulemaking projects have environmental protection as a partial component. These projects address a range of potential maritime impacts on the maritime environment, including air emissions, discharge of solid waste, ballast water and pollutants such as oil and hazardous chemicals. Rules address both prevention and response capabilities, reflective of the Coast Guard's vital maritime environmental stewardship missions.

Notable environmental regulations published in Fiscal Year 2013

Rule (Date Published)	**Phase**
Nontank Vessel Response Plans (September 30, 2013) • Establishes standards for the content and use of oil pollution response plans for nontank vessels	Final Rule
Safety & Environmental Management Systems for Vessels on the OCS (September 10, 2013) • States Coast Guard intent to require a vessel engaged in Outer Continental Shelf (OCS) activities to develop and implement a Safety and Environmental Management Systems (SEMS) compatible with Bureau of Safety and Environmental Enforcement (BSEE) requirements for lessees. Asks for comments on this concept.	Advance Notice of Proposed Rulemaking
Double Hull Tanker Escorts on the Waters of Prince William Sound, Alaska (August 9, 2013) • Improves oil pollution prevention measures in Prince William Sound	Interim Rule
Marine Vapor Control Systems (July 16, 2013) • Streamlined Coast Guard requirements to make compatible with other Federal and State regulations and incorporated industry advancements in technology	Final Rule
MARPOL Annex V Amendments (February 28, 2013) • Implements international requirements to reduce discharge of garbage	Interim Final Rule
Adding International Energy Efficiency Certificates (December 10, 2012) • Enables the issuance of certificates required by the 2013 MARPOL Annex VI; Marine Environmental Protection Committee (MEPC) resolution MEPC.203(62)	Final Rule

International Focus

Projects implementing international conventions adopted by the International Maritime Organization (IMO) and other international forums that ensure environmentally sound shipping is a key focus for the Coast Guard. Environmentally-focused international efforts include improving vessel efficiency to reduce air emissions, implementing measures to eliminate the discharge of garbage at sea, developing standards for safe and environmentally friendly methods for ship recycling, and facilitating discussions aimed at bringing the IMO's Ballast Water Management Convention into force, an important global effort to reduce the transfer of aquatic invasive species.

Given the global nature of these projects, it is vital the Coast Guard's rulemaking program includes effective, coordinated enforcement mechanisms with our international partners.

For example, the Coast Guard works closely with our Canadian counterparts through a bi-national inspection program for all vessels entering the St. Lawrence Seaway from outside Canada's exclusive economic zone.

These vessels undergo joint inspections by Coast Guard, Transport Canada, and the U.S. and Canadian Seaway Corporations before they enter the Great Lakes. This enforcement action ensures full compliance with ballast water exchange and flushing requirements, and has proven to be successful in enhancing the environmental protection of the Great Lakes. The Coast Guard, along with the Environmental Protection Agency (EPA), also works closely with Transport Canada in enforcing the North American Emissions Control Area (ECA) by jointly reviewing shipping company proposals to develop and test emission control technology aimed at reducing air pollution and promoting a cleaner marine environment.

The Coast Guard is leading U.S. efforts in cooperation with the National Oceanic and Atmospheric Administration (NOAA), National Science Foundation, Department of Defense, and EPA to develop a consensus U.S. Government position on the development of a mandatory Polar Code at the IMO. As envisioned, the Polar Code will provide a mechanism for ensuring vessels are designed for safe and environmentally sound operations while subject to the harsh conditions associated with the higher latitudes. In addition to addressing polar-specific design, equipment and operating standards for vessels, the Polar Code will also include additional environmental protective measures given the unique characteristics of Polar waters. The Coast Guard, in conjunction with the U.S. interagency group and the partnering Arctic States of Norway, Finland, Canada, Denmark, and Iceland led the drafting of the environmental chapter of the Polar Code to include regulations for potential pollutants including oil, noxious liquid substances, sewage, and garbage.

Interagency Engagement

Interagency partnering efforts include developing and implementing standards to protect the maritime environment, while also facilitating the efficient, reliable and productive flow of commerce. The Ballast Water Discharge Standard Final Rule reflects careful and thorough consideration and coordination with NOAA, EPA, the Department of Transportation, and the Maritime Administration. In developing the Ballast Water Discharge Standard Final Rule, the Coast Guard and the EPA jointly commissioned the National Academy of Sciences to conduct a study that assessed the risk of aquatic invasive species being introduced by ships' ballast water. The findings of the study informed the development of the final rule. The Coast Guard considered available ballast water treatment technology, vessel operating procedures and alignment with international standards to establish a rule that effectively and efficiently reduces the risk of introduction of aquatic invasive species. This cooperative relationship also resulted in the 2011 Memorandum of Understanding (MOU) between the EPA and the Coast Guard that coordinated interagency efforts related to data tracking, training, monitoring, verifying compliance, and industry outreach for more than 61,000 commercial ships based in the U.S. and more than 8,000 foreign ships operating in U.S. waters operating under the EPA's Vessel General Permit (VGP). Collaboration continues today as the Coast Guard and EPA work closely to jointly implement the Coast Guard's ballast water management regulations and the EPA's VGP.

The coordinated approach to implementing each agency's respective ballast water requirements is exemplified by the December 24th, 2013 letter, signed jointly by the Coast Guard and EPA, which discusses extensions to the Coast Guard's ballast water compliance dates that are granted by the Coast Guard. This letter represents a unified approach to addressing ballast water management in U.S. waters.

The Coast Guard is also an active participant with the Great Lakes Ballast Water Collaborative, an initiative spearheaded by the Saint Lawrence Seaway Development Corporation in conjunction with the International Joint Commission. This Collaborative brings together industry, state and federal regulators on the issue of ballast water and invasive species in the Great Lakes region. One of the primary goals of the Collaborative is to share information and foster better communication and collaboration among the key stakeholders engaged in the effort to reduce the risk of introduction and spread of aquatic nuisance species. In recent years, the Collaborative has taken a leading role in informing the affected stakeholders about ballast water management requirements for vessels operating in U.S. waters.

Conclusion

The Coast Guard continues to work with domestic and international partners to ensure environmentally sound commercial and recreational use of the maritime environment. Through our partnerships and focus on effective and achievable standards, we have been able to reduce risk to the environment without creating an undue burden on the marine industry.

Thank you for your continued support and the opportunity to testify before you today. I am happy to answer any questions you may have.

TESTIMONY OF
MICHAEL H. SHAPIRO
PRINCIPAL DEPUTY ASSISTANT ADMINISTRATOR
OFFICE OF WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE
SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
UNITED STATES HOUSE OF REPRESENTATIVES

March 4, 2014

Good morning, Chairman Hunter, Ranking Member Garamendi, and members of the Subcommittee. I am Michael H. Shapiro, the Principal Deputy Assistant Administrator of the Office of Water at the U.S. Environmental Protection Agency (EPA). Thank you for the opportunity to discuss the EPA's regulation of vessel discharges under the Clean Water Act (CWA)'s National Pollutant Discharge Elimination System (NPDES) program.

I last testified before the Subcommittee about these issues on October 29, 2013. As with my prior testimony, I plan to provide an update on our regulation of vessel discharges, including ballast water, under the 2013 Vessel General Permit, or "VGP," that became effective on December 19, 2013. I will highlight the major elements of the 2013 VGP, how the EPA's VGP complements the Coast Guard's final ballast water discharge rule, and steps the EPA has recently taken to implement the 2013 VGP. I will also provide background and an overview of the draft small Vessel General Permit (sVGP), which was published for comment in December 2011 and on which the Agency has not yet taken final action.

Vessel General Permit (VGP) Background

The EPA had a long-standing regulatory exclusion from NPDES permitting for discharges incidental to the normal operation of a vessel. On March 30, 2005, the U.S. District Court for the Northern District of California (in *Northwest Environmental Advocates et al. v. EPA*) ruled that the exclusion exceeded the

agency's authority under the CWA. While the focus of the case involved the significant impact of aquatic nuisance species (ANS) introduced by ballast water discharges from ships making transoceanic voyages, the district court vacated the vessel incidental discharge exclusion in its entirety. Section 301(a) of the CWA generally prohibits the discharge of a pollutant without an NPDES permit. So after the district court's vacatur, which ultimately went into effect on February 6, 2009, vessels would not have been able to discharge ballast water or other incidental discharges in waters of the U.S. without NPDES permit authorization. Following an unsuccessful appeal of the District Court's decision to the U.S. Court of Appeals for the Ninth Circuit, the EPA issued its first version of the VGP in December 2008 to most effectively and efficiently regulate and authorize incidental discharges, such as ballast water, from the large number of domestic and foreign vessels affected. Pursuant to the Clean Water Act, the EPA and states may issue general permits for a five-year term, at which time they must be reissued.

The 2013 VGP

The agency's 2013 VGP, which replaces an earlier permit issued in 2008, authorizes discharges from approximately 70,000 domestic and foreign vessels. These vessels are subject to the permit's requirements while in waters of the U.S., including the territorial sea out to three miles and inland waters, and applies to all non-military, non-recreational vessels greater than or equal to 79 feet in length. The ballast water discharge provisions of the VGP also apply to commercial fishing vessels of any size that discharge ballast water.

The VGP regulates discharges incidental to the normal operation of vessels operating in a capacity as a means of transportation. The VGP includes general effluent limits applicable to 26 specific discharge streams; narrative water quality-based effluent limits; inspection, monitoring, recordkeeping, and reporting requirements; and additional requirements applicable to certain vessel types. The effluent

limits are primarily in the form of Best Management Practices (BMPs), which were developed based upon standard industry practices that were already being performed on vessels.

The EPA's 2013 VGP was signed and issued in March 2013. Issuing the permit in March 2013 provided vessel owners time to plan for and implement its conditions before the permit became effective on December 19, 2013. As the agency was developing the 2013 VGP, the EPA received approximately 5,500 comments on the draft VGP during the 75-day public comment period. In developing and finalizing the permit, the EPA focused on increasing environmental protection based on sound science, ensuring vessel safety, and minimizing burden for permittees.

Compared to the agency's previous 2008 permit, the 2013 VGP reduces the administrative burden for vessel owners and operators in several ways, such as eliminating duplicative reporting requirements, clarifying that electronic recordkeeping may be used instead of paper records, and streamlining self-inspection requirements for vessels that are out of service for extended periods. The VGP also increases environmental protection with provisions for mechanical systems that may leak lubricants into the water and for exhaust gas scrubber washwater, which will reduce the quantity and toxicity of oils and other pollutants that enter U.S. waters. In addition, because untreated graywater, especially in large quantities, can cause environmental harm, the 2013 VGP includes a prohibition against the discharge of untreated graywater from cruise ships within three nautical miles from shore. The untreated graywater produced by cruise ships may contain high levels of nutrients, pathogens, residual levels of organic material and cleaning chemicals.

EPA's Partners in Addressing Ballast Water Discharges

The EPA is fortunate to have strong federal partners in mitigating the threat posed by ballast water discharges, including the Coast Guard. As an example of the agencies' partnership, the EPA and the Coast Guard signed a MOU in 2011, which created a framework for improving EPA and Coast Guard

collaboration on data tracking, training, compliance monitoring, enforcement and industry outreach. The EPA is also working closely with the U.S. Coast Guard to develop an effective federal inspection regime for the 2013 VGP.

It is also important to note the critical role that the Saint Lawrence Seaway Development Corporation ("the Seaway") has played in developing and implementing effective ballast water programs for vessels entering the Great Lakes. In 2008, the Seaway was the first U.S. federal government entity to mandate saltwater flushing for vessels entering the Great Lakes from outside the U.S. Exclusive Economic Zone (EEZ). Additionally, the Seaway, in partnership with the Coast Guard and our Canadian partners, implements a 100% inspection regime for all applicable vessels entering the Lakes to assure that they have conducted ballast water exchange or saltwater flushing. Finally, the Seaway continues to play a leadership role in facilitating communication between various stakeholders in the Great Lakes, including the states, to ensure effective ballast water regulation of vessels entering the Great Lakes. Based in part on these efforts, we believe that the Great Lakes have been better protected from invasive species in recent years, and we look forward to the Seaway's continuing role in effectively implementing ballast water requirements for vessels entering the Great Lakes.

Development of Ballast Water Provisions in the VGP

In developing ballast water limits for the 2013 VGP, the EPA considered limits based on both the best technology available economically achievable to treat the pollutants (i.e., technology-based effluent limits), and any more stringent limits necessary to protect water quality (i.e., water quality-based effluent limits). In order to further our scientific understanding of the state of ballast water science, the EPA, with assistance from the Coast Guard, sought advice from the EPA's Science Advisory Board (SAB) on the performance and availability of ballast water treatment technologies. The EPA, again with the Coast Guard's help, also commissioned a report from the National Academy of Sciences (NAS) to

inform our understanding of the relationship between the concentration of living organisms in ballast water and the likelihood of nonindigenous organisms successfully establishing populations in U.S. waters. The EPA's primary purpose in requesting the NAS and SAB reports was to obtain expert input and advice regarding the derivation of environmentally sound numeric effluent limits for ballast water, and the status and availability of ballast water treatment technologies.

The EPA used the results of these studies to inform the discharge limits in the 2013 VGP, which are generally consistent with those contained in both the International Maritime Organization's 2004 Ballast Water Management Convention and the Coast Guard's final ballast water rule. In finalizing these limits, the EPA concluded that they would be expected to substantially reduce the risk of introduction and establishment of non-indigenous invasive species in waters of the U.S. via ballast water discharges. The permit specifies that the limits will be phased in over time during a timeframe that mirrors the schedule outlined in the Coast Guard's final rule.

The EPA's earlier 2008 VGP contained a variety of state-specific ballast water conditions, which were included as a result of the CWA's section 401 state certification process. By sharing the results of the scientific studies with states and actively fostering coordination between the states throughout the 2013 permit development process, the EPA facilitated greater consistency among state 401 certification ballast water conditions for the 2013 VGP.

Ballast Water Discharge Limits: Comparing the VGP and the Coast Guard's Final Rule

The Administration continues to be deeply concerned about the environmental and economic impacts that can result from the introduction of ANS into U.S. waters. ANS introductions contribute to the loss of aquatic biodiversity, and existing ANS introductions have caused significant social, economic, and biological impacts. Economic costs from invasions of ANS range in the billions of dollars annually. To help prevent future ANS introductions and the significant impacts they cause, the Coast Guard and the

EPA have worked very closely over the past several years to develop a strong federal ballast water management program that will reduce the risk of new introductions. In administering our respective authorities, the Coast Guard and the EPA have worked closely to harmonize, as appropriate and permitted by law, the final Coast Guard ballast water discharge standard regulations and the EPA's 2013 VGP.

It is important to note that the Coast Guard and the EPA are implementing different laws. The Coast Guard implements the Non-indigenous Aquatic Nuisance Prevention and Control Act, as amended by the National Invasive Species Act, and the EPA implements the CWA. As a result of the Coast Guard and the EPA's efforts to coordinate and develop a robust technical and scientific foundation for our decisions, our agencies each have a similar understanding of the technological and ecological factors associated with ballast water discharges, their treatment, and their impacts. The VGP and the Coast Guard's final rule are generally aligned in terms of numeric ballast water effluent limitations, applicability of those limits, and the implementation schedule. In order to fulfill the CWA's statutory mandates, the 2013 VGP has some additional monitoring and other quality control requirements beyond those in the Coast Guard's final rule, one of which I'd like to highlight.

The EPA has finalized in the VGP a requirement to continue existing ballast water exchange practices as water quality-based effluent limits for certain vessels entering the Great Lakes. In addition to meeting the numeric discharge standards in the permit, vessels that enter the Great Lakes after operating beyond the Exclusive Economic Zone are required by the EPA's permit to continue to conduct mid-ocean ballast water exchange when they have taken on ballast water from a non-Great Lakes freshwater or brackish water port in the previous month. The purpose of this requirement, which is not included in the Coast Guard's final rule, is to add another measure of protection against potential new invasive freshwater species that are transported via ballast tanks to the freshwater environment of the Great Lakes. By requiring ballast water exchange mid-ocean in addition to removal by treatment, any

remaining freshwater species that were taken up in the ship's ballast in fresh or brackish waters would either be discharged into the open ocean or shocked by saline water during ballast water exchange before being discharged into the freshwater of the Great Lakes. The EPA finalized this additional measure for the Great Lakes, a unique and valuable economic and natural resource, based on a recognition that those water bodies have been particularly impacted by the introduction of various invasive species and remain susceptible to future introductions if appropriate measures are not taken. Based on public comments received and clear scientific evidence that this practice would increase protection for the Great Lakes, the EPA limited the requirement to vessels whose voyage patterns are more likely to result in ballast water discharges that may pose a higher risk of invasion. This subset of vessels has conducted exchange safely for years, and the final VGP includes provisions to address safety issues. This provision, as well as the other requirements of the permit, will be reviewed during the 2018 renewal of the permit, and may be modified or dropped if found to be no longer necessary. The majority of Great Lakes States also included similar provisions in their Section 401 certifications, which under the Clean Water Act also become binding conditions of the permit in the waters of the certifying States.

As the EPA has started to implement the 2013 VGP, we have continued to work with the Coast Guard to ensure consistency with respect to the regulation of ballast water discharges. In late 2013, the EPA issued an Enforcement Response Policy, which states that vessels that cannot meet the VGP's numeric ballast water limits and have received an extension from the Coast Guard are considered a low enforcement priority. The EPA and the Coast Guard worked together to develop and distribute a joint letter to those vessel owners that have been granted an extension from the Coast Guard's ballast water regulations in order to foster consistent implementation of the VGP and the Coast Guard rule and to provide the regulated community with a common understanding of how the permit and the rule work together with respect to such extensions.

The Small Vessel General Permit (sVGP)

As you are aware, Congress passed and the President signed two laws in the summer of 2008 that narrowed the scope of the NPDES permit requirement for incidental vessel discharges. The first law, the Clean Boating Act (Public Law 110-288), exempted recreational vessels from the requirement to obtain an NPDES permit for their incidental discharges and directed the EPA and the Coast Guard to develop uniform national regulations for such discharges under Section 312 of the CWA. The second law (Public Law 110-299) generally imposed a two-year moratorium on NPDES permitting requirements for commercial vessels less than 79 feet and commercial fishing vessels regardless of size, except for their ballast water discharges. This moratorium was subsequently extended to December 18, 2013, by Public Law 111-215 and to December 18, 2014, by Public Law 112-213. In addition, Public Law 110-299 directed the EPA to conduct a study of vessel discharges and develop a report to Congress. The EPA finalized this Report to Congress, entitled "Study of Discharges Incidental to Normal Operation of Commercial Fishing Vessels and Other Non-Recreational Vessels Less Than 79 Feet," in August 2010.

The EPA proposed the sVGP in December 2011 to provide CWA permit authorization for commercial vessels less than 79 feet and commercial fishing vessels regardless of size when the moratorium expires. Section 301(a) of the CWA generally prohibits the discharge of a pollutant without an NPDES permit, and as of the December 2014 expiration date of the moratorium, the affected vessels would be prohibited from discharging in waters of the U.S. without NPDES permit coverage. The EPA expects to issue the final sVGP well before the December 2014 expiration of the current moratorium, so that it will be available to small vessel owners and operators at that time if needed.

We estimate that between 118,000 and 138,000 vessels could be subject to the sVGP's requirements upon expiration of the current moratorium. Without coverage under the sVGP, owners/operators could face penalties for violating the CWA's prohibition against the discharge of a pollutant without a permit. Hence, the EPA proposed the draft sVGP to provide the most administratively efficient permit possible consistent with our regulations. As currently proposed, if the owner or operator of a vessel less than 79

feet believes the sVGP to be inappropriate for their vessel, they may seek coverage under the VGP or an individual NPDES permit.

This sVGP would be the first under the CWA to specifically address discharges incidental to the normal operation of commercial vessels less than 79 feet in length. Recognizing that small commercial vessels are substantially different in how they operate than their larger counterparts, the draft sVGP is shorter and simpler than the VGP. The draft permit specifies BMPs for several broad discharge management categories including fuel management, engine and oil control, solid and liquid maintenance, graywater management, fish hold effluent management, and ballast water management. These BMPs include common-sense management measures to reduce environmental impacts from these discharges, including measures to reduce the risk of spreading invasive species. Based on the types of discharges from these vessels, the draft sVGP also contains simplified paperwork requirements relative to VGP. Instead of submitting a Notice of Intent to EPA to obtain coverage, owners/operators would be required to fill out and maintain onboard a simple one-page permit authorization form.

Conclusion

The EPA is continuing its hard work of helping to protect our nation's waters from pollution through its Clean Water Act efforts to address vessel discharges. The EPA and the Coast Guard will continue to explore additional ways to harmonize our programs as we work closely together to minimize the risk of introduction and spread of aquatic nuisance species through cooperative regulation of ballast water discharges.

Once again, Chairman Hunter, Ranking Member Garamendi, and Members of the Subcommittee, thank you for the opportunity to discuss the EPA's VGP and sVGP. I look forward to answering any questions you may have.

Christopher Grundler

Director

Office of Transportation and Air Quality

Office of Air and Radiation

U.S. Environmental Protection Agency

Subcommittee on Coast Guard and Maritime Transportation

Committee on Transportation and Infrastructure

U.S. House of Representatives

March 4, 2014

Written Statement

Chairman Hunter, Ranking Member Garamendi and other members of the Subcommittee, I appreciate the opportunity to testify today on the implementation of the North American and U.S. Caribbean Sea Emission Control Areas, or ECAs.

The International Convention for the Prevention of Pollution from Ships, known as MARPOL, is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. In 2007, at the International Maritime Organization or IMO, the United States proposed amendments to Annex VI of

MARPOL, including stringent new tiers of standards for ships operating in specially designated emission control areas. In 2008, these amendments were adopted after international discussions involving input from a wide range of stakeholders. The United States, Canada, and France (in relation to French overseas territory in the northwest Atlantic) then submitted an application for ECA designation for North America and parts of Alaska and Hawaii, which was adopted by consensus at the IMO in 2010, and has been enforceable under U.S. domestic law pursuant to the Act to Prevent Pollution for Ships since 2012. A second ECA, the U.S. Caribbean Sea ECA, was adopted by IMO in 2011 and became enforceable in January of this year.

Emission Control Areas Protect the Environment and Save Lives

ECAs are one of the most important and cost-effective air quality programs the U.S. Government has put into place in the past decade, and will result in the prevention of tens of thousands of premature deaths. The North American ECA is already yielding significant public health and environmental benefits extending from all U.S. coastal areas to hundreds of miles inland. In 2014, more than 135 million people living in ozone nonattainment areas and over 84 million living in PM2.5 nonattainment areas will benefit from cleaner air due to the ECA. Furthermore, these air quality improvements are critical for states to attain and maintain the existing health-based National Ambient Air Quality Standards (NAAQS).

Rigorous air quality and inventory modeling analyses conducted by EPA clearly show that U.S. air quality is adversely affected by ships that operate as far as 200 nautical miles from our coastlines. Nitrogen oxide (NOx), particulate matter (PM) and sulfur oxide (SOx) emissions from these ships are associated with serious public health problems, including

premature mortality, aggravation of respiratory and cardiovascular disease, and aggravation of existing asthma and chronic bronchitis, and which disproportionately impact those most vulnerable - children, infants and the elderly.

By 2030, emissions reductions resulting from the North American ECA will prevent between 12,000 and 31,000 premature deaths and 1.4 million work days lost in the United States. The fuel sulfur limits will also reduce detrimental impacts of these emissions on marine and terrestrial ecosystems. EPA estimates that the monetized human health and welfare benefits of this program outweigh the costs of this program by a factor of at least 30 to 1. In short, the ECA is one of the most cost-effective mobile source programs ever adopted. The ECA provides a more cost-effective alternative to states and local areas than requiring additional emissions cuts from other highly regulated sources, making it easier for them to meet air quality goals.

ECA Implementation

Implementation of the North American ECA started in August 2012, when the allowable marine fuel sulfur level was reduced to no greater than 10,000 parts per million. The Coast Guard and EPA have worked and continue to work closely with the regulated community to ensure an orderly transition during this first stage of ECA standards. This included the development of a policy document to provide the vessel owners with guidance in the event there are temporary fuel availability issues in specific locations. Overall, implementation of the ECA is going very well, and ships are using compliant fuel in the ECA.

A second stage of fuel sulfur controls takes effect in January 2015, when the allowable limit decreases to 1,000 parts per million, and we expect smooth implementation of those requirements as well. This ECA-compliant fuel is expected to be diesel fuel, rather than the heavy residual fuel used by ships today. Diesel fuel is used in highway, nonroad, and small marine applications, and often has sulfur levels much lower than the ECA sulfur limit. This fuel is already available at many ports as it is used on ships for auxiliary engines and for start-up of main engines. Furthermore, this 1,000 ppm sulfur fuel will be required for the ECAs in the Baltic and North Sea as well, making the fuel likely to also be available at foreign ports. The EPA and Coast Guard will continue to work with vessel owners during the transition to the 2015 standards and provide guidance in the event that there are temporary fuel availability issues, just as we have done in the first stage of the fuel standards.

While the ECA is a significant public health achievement, and ECA-compliant fuel is much cleaner than the marine heavy fuel oil historically used by these ships, ECA fuel in 2015 will still have a much higher sulfur content than fuels used in any other U.S. transportation sector – more than 65 times higher than the allowable sulfur content for diesel fuel used in cars, trucks, trains, and ships operating on our inland waterways.

Flexibilities under MARPOL Annex VI

EPA does not grant exemptions from the ECA fuel sulfur limits. However, MARPOL Annex VI contains some provisions that allow for some flexibility in achieving compliance with the requirements. One provision allows for the use of alternative methods provided they are at least as effective in terms of emission reductions. Another allows for temporary permits for trial programs to develop emissions reduction technology. Several ship owners that

operate primarily in the ECA have requested and received permits to develop new technologies and methods that can achieve compliance at lower cost. EPA has worked closely with the Coast Guard and the relevant flag countries to assess and approve or acknowledge several of these projects. As a result, these companies are making substantial investments to develop exhaust gas cleaning systems, convert or build new vessels to use Liquefied Natural Gas (LNG) fuel, and use shoreside power, to reduce emissions. EPA has worked closely with these companies to ensure that they will achieve equivalent or greater emission reductions and are incentivizing the development of new technology.

Specific projects that EPA and Coast Guard have approved or acknowledged are:

- LNG project undertaken by TOTE, a U.S. based shipping firm, which operates two vessels between Tacoma, Washington and Anchorage, Alaska. This program will result in a conversion of these two vessels from diesel fuel to LNG.
- SOx scrubber development project with Norwegian Cruise Line for up to seven vessels.
- SOx scrubber development project with Royal Caribbean for up to six vessels.
- SOx scrubber and diesel particulate filter development project with Carnival Corporation for up to 32 vessels.

I would like to assure the Subcommittee that the EPA will continue to work with Coast Guard and the shipping industry on programs to reduce costs and encourage the development of new, lower cost technologies and compliance methods. The EPA is committed to working cooperatively with all interested stakeholders within the shipping industry to explore flexible,

cost-effective and innovative compliance approaches as allowed under MARPOL Annex VI with respect to technology development programs.

Conclusion

I want to emphasize again that the ECAs are one of the most important and cost-effective air quality programs the U.S Government has put into place in the past decade and will result in the prevention of tens of thousands of premature deaths. The North American and U.S. Caribbean ECAs are already yielding significant public health and environmental benefits in the first stage of fuel sulfur controls, and we are working to ensure a smooth transition to the second stage of standards. Again, I thank you for the opportunity to appear before the Subcommittee.

Statement of

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Maritime Transportation Regulations:
Impacts on Safety, Security, Jobs, and the Environment, Part II

Before the
Subcommittee on Coast Guard and Maritime Transportation
Committee on Transportation and Infrastructure
United States House of Representatives
Washington, DC

March 4, 2014

Good morning, Chairman Hunter, Ranking Member Garamendi, and Members of the Subcommittee. I am Tom Allegretti, President & CEO of The American Waterways Operators. AWO is the national trade association for the inland and coastal tugboat, towboat, and barge industry. On behalf of AWO's over 350 member companies, thank you for the opportunity to testify at this very important hearing.

I am also speaking on behalf of the Shipping Industry Coalition, an alliance of maritime trade associations that together represent over 90 percent of all vessels calling at U.S. ports, in both the domestic and international trades. The Coalition is committed to working with legislators, regulators, and non-governmental organizations to develop environmentally sound and economically practicable solutions to prevent the introduction and spread of invasive species in U.S. waters.

Thank you for holding this hearing to explore the impact of maritime transportation regulations on safety, security, jobs and the environment. My testimony today will focus on one critical area – the regulation of ballast water and other vessel discharges – in which the current regulatory regime serves neither the economy, the environment, nor the American taxpayer well. Under that regime, two federal agencies regulate ballast water and other vessel discharges under two differing statutory authorities. And, because neither federal statute preempts state action, more than two dozen states have established their own state-specific requirements for many of those same discharges. This overlapping patchwork of federal and state regulations has made compliance complicated, confusing and costly for vessel owners and mariners. It has been counterproductive to the goal of enhanced environmental protection as companies have delayed investment in costly treatment technologies because they lack assurance that such systems will be acceptable wherever a vessel calls. And, it has forced resource-constrained federal and state agencies to duplicate efforts and expend significant time and taxpayer money in a well-intentioned but unsuccessful effort to harmonize their requirements.

Congressional leadership is badly needed to fix this unacceptable situation. My message to you today is that Congress has an opportunity, unprecedented in recent years, to enact legislation that improves the efficiency and effectiveness of maritime transportation while enhancing the

protection of our nation's waterways. In the three years since I last testified before this Subcommittee on the subject of vessel discharges regulation, a consensus among federal and state regulators has emerged that can provide the foundation for bipartisan congressional action to resolve redundant and conflicting regulatory authorities in this area. The establishment of a uniform federal framework for the regulation of vessel discharges will be good for the maritime industry and the men and women who work in it, good for shippers who rely upon marine transportation, good for the marine environment, and good for the American taxpayer. The bipartisan leadership of this Subcommittee will be crucial if we are to seize the unique opportunity to enact legislation that accomplishes these objectives in the 113th Congress.

Let me tell you a bit about our industry, which will help to explain why this legislation is so critical. The tugboat, towboat, and barge industry is the largest segment of the U.S. maritime fleet. The industry operates some 4,000 towing vessels and 27,000 dry and liquid cargo barges on the commercially navigable waterways that run through America's heartland, along the Atlantic, Pacific, and Gulf coasts, on the Great Lakes, and in ports and harbors around the country. Each year, towing vessels and barges safely, securely, and efficiently move more than 800 million tons of critical cargo, including agricultural products for export, coal to electrify our homes and businesses, petroleum products to fuel our cars, chemicals for manufacturing facilities, cement and sand for construction projects, and other building blocks of the U.S. economy. Tugboats also provide essential services in our nation's ports and harbors, including shipdocking, tanker escort, and bunkering. More than 30,000 American mariners are employed as crewmembers on towing vessels; these are good, family-wage jobs that offer great potential for career and economic advancement.

The current regulatory regime governing ballast water and other vessel discharges places those mariners and their employers in the difficult position of having to comply with overlapping and inconsistent regulations. The U.S. Environmental Protection Agency regulates ballast water and other vessel discharges under the Clean Water Act's National Pollutant Discharge Elimination System (NPDES) permit program; the U.S. Coast Guard regulates discharges of ballast water and hull fouling organisms under the National Invasive Species Act; and some 25 states have

established their own requirements for various vessel discharges already covered by the EPA and Coast Guard regulations.

Since 2009, commercial vessels over 79 feet in length have been required to obtain coverage under EPA's Vessel General Permit in order to operate in U.S. waters. The VGP contains federal requirements for 27 types of vessel discharges, including ballast water, as well as federally enforceable state- and waterbody-specific discharge conditions added to the permit by states as part of the NPDES state certification process. In addition to federal and state VGP requirements, vessels must meet federal standards for ballast water and hull fouling discharges established by the Coast Guard. Vessels are also required to act in accordance with the state laws and regulations for vessel discharges applicable to the waters they transit.

To take an example of what this regulatory patchwork means in practice for a vessel operating in interstate commerce, a tug-barge unit on a typical Pacific coastal voyage moving crude oil from an export facility in North Puget Sound, Washington, to a refinery at the Port of Richmond, California, must traverse the waters of three states: Washington, Oregon, and California. In addition to EPA limits on ballast water and other vessel discharges found in the VGP, the vessel must comply with 25 supplementary, state-specific conditions added to the permit by Washington and California. The vessel must also comply with Coast Guard regulations to manage and discharge ballast water and hull fouling organisms. Finally, in each of the three states it transits, the vessel is subject to state laws and regulations, necessitating the submission of ballast water management reports to every state in which it will discharge ballast water (in addition to the reports required by the Coast Guard) and requiring the implementation of ballast water management practices in addition to those prescribed by EPA and the Coast Guard. This example underscores why clear, consistent federal rules for ballast water and other vessel discharges are desperately needed.

It also demonstrates why, as a matter of sound public policy, the NPDES permit program is the wrong framework for the regulation of discharges from vessels. The program, as EPA has acknowledged, was designed to control pollution from land-based, stationary sources, and has been largely administered and enforced by individual states – the basis of the state certification

process. This process makes the program particularly ill-suited to regulate discharges from commercial vessels, which by their very nature are mobile sources that operate and discharge in multiple states. For the first 35 years of the NPDES program's existence, vessel discharges were explicitly exempted by EPA regulation. EPA went to court to defend its exclusion of vessel discharges from the program, but in 2008 the Ninth Circuit Court of Appeals ordered EPA to regulate vessel discharges through the issuance of NPDES permits.

As a result, EPA proposed the VGP, a first-of-its-kind nationwide, general permit for vessel discharges to be administered and enforced by the agency and certified by individual states. The state certification process resulted in over 100 new, substantive requirements that were incorporated by EPA into its final permit, which it issued without allowing the regulated community an opportunity to comment on the state conditions and without considering the impact of the state conditions collectively. A group of maritime trade associations, including AWO, challenged EPA's management of the VGP state certification process in court. In a decision that was issued just two weeks after I last testified before you on this subject, the U.S. Court of Appeals for the D.C. Circuit ruled that EPA had no authority under the Clean Water Act to alter or reject state conditions, even if they are infeasible or in direct conflict with other federal or state requirements. Recognizing the problem, the Court suggested that Congress must act to provide the maritime industry with a viable solution. We agree.

Since that time, EPA has done its best to make the VGP and the state certification process as practicable as possible, and I want to be clear that my purpose today is not to criticize EPA. The broken regulatory regime for vessel discharges is not a problem of EPA's making. It is not a problem of the Coast Guard's making. It is a situation in which well-meaning and hard-working agencies have been effectively set up to fail as they seek to harmonize regulations promulgated pursuant to different statutory authorities and, in EPA's case, to make the square peg that is the NPDES permit program fit the round hole that is mobile sources engaged in interstate and international commerce. With no relief forthcoming from the courts, it is up to Congress to lead and establish a uniform federal framework for the regulation of ballast water and other vessel discharges. There is no better time than now for Congress to take action on this very important issue.

In my testimony before this Subcommittee during the 112th Congress, I explained how, faced with overlapping federal and state authorities and the absence of uniform national standards for the management and discharge of ballast water, we were witnessing a competition among states to establish the most stringent ballast water treatment standards on the books. Under the logic of this competition, if the International Maritime Organization standard was good, a standard 100 or 1,000 times more stringent than the IMO standard must be better – even if those standards could not be achieved, or even measured, with existing technology. I am pleased to report to you that there has been a sea change in the states' approach. There is now a national consensus about the capability of current ballast water treatment technology that did not exist three years ago. This consensus provides a strong scientific foundation for Congress to move forward with legislation to establish uniform national standards for vessel discharges.

Just days before the subcommittee's previous hearing on this subject, an independent and expert panel of the EPA Science Advisory Board completed its study of the efficacy of current ballast water treatment systems and concluded that no current treatment technology can meet a standard 100 or 1,000 times more stringent than the IMO standard. The panel further concluded that wholly new treatment systems and measurement techniques would need to be developed to meet more stringent standards than IMO's.

Shortly after the EPA SAB report was published in June 2011, the state of New York agreed to withdraw one of its state conditions to the VGP, which would have required vessels operating in New York waters to install ballast water treatment systems meeting a standard 100 times more stringent than the IMO standard beginning in 2013. In an October 2011 letter to the EPA Administrator, the New York Department of Environmental Conservation wrote that the state believes "a strong, uniform national standard is the best approach to our mutual goal of ensuring that vessels install and use achievable and cost-effective technology to treat ballast water discharges that will dramatically limit the introduction and spread of aquatic invasive species." The letter continued, "A national approach to this ballast water issue is clearly preferable to a plethora of potentially conflicting state standards."

In early 2012, the Coast Guard published a final rule establishing a ballast water treatment standard equivalent to the IMO standard. Citing the EPA SAB report, the Coast Guard wrote that "[t]he numeric limitations in today's final rule represent the most stringent standards that [ballast water treatment systems] currently safely, effectively, credibly, and reliably meet." EPA also relied on the EPA SAB's conclusions to develop the 2013 Vessel General Permit, in which it set a ballast water treatment standard corresponding to the IMO and Coast Guard standards.

Since the Coast Guard and EPA aligned their ballast water treatment standards, the states have quickly followed suit. None of the states that certified the 2013 VGP with conditions added a more stringent ballast water treatment standard than that established by EPA within the permit. Most notably, last June, the California State Lands Commission officially acknowledged that California's statutory ballast water performance standards – which called for the implementation of a standard 1,000 times more stringent than the IMO standard beginning in 2014 – could not be met with current ballast water treatment technology. Acting on the Commission's recommendation, the California legislature acted to delay implementation of these standards. Of the states that have established or proposed to establish state-specific ballast water discharge standards, California was the last to concur with the findings of the EPA SAB.

This consensus changes not only the regulatory landscape, but the legislative landscape as well. Congress can capitalize on this accord among the scientific community, the federal government, and the states to improve the regulation of vessel discharges by enacting a single set of uniform national standards, with a requirement for the standards to become increasingly stringent as treatment technology improves over time. Such legislation would improve the maritime industry's ability to deliver the nation's waterborne commerce efficiently and effectively by providing consistency and certainty, and would enhance our nation's commitment to the continued protection of its waterways. It would also benefit the American taxpayer by ending the costly duplication of effort by federal and state agencies that results from the current statutory and regulatory patchwork.

AWO, its member companies, and our colleagues in the Shipping Industry Coalition are partners in a shared commitment to environmental stewardship. Maritime transportation is the safest and

most energy-efficient mode of freight transportation. AWO is dedicated to building on these natural advantages and leading the development of higher standards of marine safety and environmental protection. Twenty years ago, AWO became the first transportation trade association to adopt a code of safe practice and environmental stewardship for member companies, the AWO Responsible Carrier Program. Since 2000, third party-audited compliance with the RCP, which exceeds federal regulatory standards, has been a condition of membership in the association.

I share with you this history and these organizational characteristics to emphasize that our goal in urging congressional action is not to avoid high standards. Our industry has established a strong and continuously improving environmental record, and we recognize that making responsible environmental practice a top priority is both good policy and good business. The problem is not that vessel discharges are regulated; it is how they are regulated. The current unclear and inconsistent regulatory system makes compliance confusing and investment decisions uncertain.

Let me emphasize again this important fact: the only way to fix this broken regulatory regime is for Congress to act, and act soon. Although the Coast Guard, EPA, and state regulators are currently in agreement about the appropriate standard for ballast water treatment, the way that they administer and enforce the standard is at best duplicative, and at worst incompatible. The Chamber of Shipping of America will testify to a situation that has adversely affected our colleagues in the international shipping community that illustrates the problem perfectly: a situation in which the Coast Guard and EPA, acting in good faith under different statutory authorities, have been unable to harmonize their implementation policies and provide vessel owners the certainty that treatment systems they install on their vessels will satisfy both agencies for the systems' service life.

On behalf of the businesses that operate vessels that carry the cargo that drives our economy, that provide high-quality jobs for men and women across the United States, and that seek to protect the marine environment in which they operate, we respectfully urge the Subcommittee to bring clarity and certainty to the regulation of vessel discharges. We ask you to lead the introduction

and passage of legislation that establishes a uniform, science-based, consensus-driven federal framework for the regulation of ballast water and other vessel discharges.

Chairman Hunter, Ranking Member Garamendi, thank you again for the opportunity to testify today on a matter of great importance to our industry, to the U.S. economy, and to the nation's marine environment. We appreciate your leadership and we look forward to your continued partnership with the Coast Guard, with EPA, and with our industry to advance our mutual goal of a safe, secure, environmentally sound maritime transportation system that is good for America and for the Americans who work in our industry.

MARITIME TRANSPORTATION REGULATIONS: IMPACTS ON

SAFETY, SECURITY, JOBS AND THE ENVIRONMENT

PART II

HEARING BEFORE THE

U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE

SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION

TESTIMONY OF

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MARCH 4, 2014

Good morning, Mister Chairman and Members of the Subcommittee. We appreciate the opportunity to provide testimony at this hearing to review the status of regulations by the US Coast Guard and Environmental Protection Agency addressing certain environmental issues and the impacts of these regulations on the maritime industry.

Mister Chairman, we respectfully request that our testimony be entered into the record for this hearing.

I am Kathy Metcalf, Director of Maritime Affairs for the Chamber of Shipping of America (CSA). Today, I am testifying on behalf of CSA, INTERTANKO, and the Cruise Lines International Association (CLIA). CSA represents 35 member companies which are U.S. based that own, operate or charter both US and non-US flag oceangoing tankers, container ships, and other merchant vessels engaged in both the domestic and international trades. INTERTANKO represents the independent tanker owners and operators of oil and chemical tankers with more than 220 members located in 41 countries worldwide, whose combined fleet comprises some 3,250 tankers totaling more than 285 million deadweight, many of which call at US ports. In addition, INTERTANKO's associate membership stands at more than 300 companies with an interest in shipping of oil and chemicals. CLIA is the world's largest cruise industry trade association with representation in North and South America, Europe, Asia and Australasia. CLIA represents the interests of cruise lines and travel agents before regulatory and legislative policy makers. CLIA's Associate Member and Executive Partner program includes the industry's leading providers of supplies and services that help cruise lines provide a safe, environmentally-friendly and enjoyable holiday vacation experience for millions of passengers every year.

Over a decade ago, the maritime industry realized that with the avalanche of new legislative and regulatory requirements impacting the maritime industry addressing a number of significant and complex issues, collaboration with other industry partners was necessary to provide, to the extent possible, overarching maritime industry input into the development of and the eventual implementation of new legislative and regulatory requirements. A fundamental tenet of our approach to these issues has always been that smart legislation and regulation is possible only with the committed interaction of legislators, regulators, the industry and environmental groups. All must understand the perspectives of the others and when the collective will is focused on the problem at hand, we believe that smart and effective legislation and regulation can be developed that meets environmental goals in an effective, economically practical and operationally feasible manner.

Aside from the challenges associated with the sheer volume of new initiatives impacting the maritime industry, the issues are further complicated by the fact that a number of executive branch agencies are involved in the development of these regulations with varying degrees of knowledge and understanding of the maritime industry. This multi-agency involvement results not only from the traditional and necessary inter-agency review process associated with regulatory program development but also from statutory mandates to these agencies under a number of statutes that do not necessarily mesh

one with the others. The requisite knowledge of the maritime industry rests with the US Coast Guard and Maritime Administration and we strongly suggest that these agencies should have the lead on issues impacting the marine industry to ensure that the unique operational nature of the industry is properly taken into account in developing legal requirements. Too many recent requirements promulgated by agencies that have broad statutory mandates to develop regulations impacting a broad spectrum of industries have been promulgated with a "one size fits all" approach that does not take into account the unique nature of specific industries most notably the maritime industry.

For example, the US approach to the regulation of greenhouse gases (GHGs) is led by the State Department at the international level while EPA is also developing domestic programs to address GHGs. The vast majority of GHG sources are stationary in nature and a program that addresses these sources is not necessarily the appropriate program to address mobile sources such as the marine industry which is global in nature. While we appreciate the need for a uniform US position on GHGs, the nature of the sources being considered must take into account the unique differences between the broad types of sources including the differences between stationary and mobile sources.

Another example of the need for better coordination among agencies is in the development of environmental assessments and economic impacts analysis of proposed regulations. Too often, the agency operating under a statutory mandate to promulgate regulations conducts these assessments in a manner which does not necessarily take into account input by other specialized agencies with the necessary technical and operational knowledge of a particular industry sector. Specifically, we would recommend that better coordination and collaboration occur between the US Coast Guard and the EPA in finalizing these assessments to assure that the unique nature of the maritime industry is taken fully into account.

Before we provide two specific examples of initiatives that have created much concern within the industry and in one case, duplicative efforts within the Executive Branch, we would like to outline the sources of the avalanche of new initiatives impacting the industry. First and most familiar to members of this subcommittee are the regulatory programs overseen by key agencies which are focused at either updating current regulatory programs or implementing new ones which are the direct result of either Congressional mandate or international agreement. One need only review the semi-annual regulatory agendas of the US Coast Guard, the EPA, NOAA and TSA to appreciate the volume and breadth of issues that are currently in the regulatory pipeline.

International agreements, generally those agreed to by the International Maritime Organization (IMO) are a significant source of new US regulatory programs in order to update US regulations with regard to existing and new convention requirements, including the usual flurry of amendments to existing conventions that occur on a regular basis. It should be noted that we fully support IMO as the preeminent international organization to regulate shipping as its activities provide the much needed global consistency to the maritime industry and thus generally support US regulatory initiatives that incorporate these provisions. The key conventions relative to the environmental

subject matter of this hearing include the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78/97) and its six annexes covering carriage of oil in bulk, noxious liquid substances in bulk, packaged goods, sewage, garbage and the newest annex addressing air emissions finalized in its current form in 2007, the Ballast Water Convention (2004), the Anti-fouling Convention (2001) and the Ship Recycling Convention (2009).

It is an understatement to suggest that the current and pending legislative and regulatory programs are a challenge to monitor, participate in their development and most importantly, implement within the maritime industry to assure compliance with these many significant and diverse requirements. We offer two specific examples where we believe smarter legislation and regulation would benefit all stakeholders and avoid the duplicative efforts within the US government as well as eliminating confusion within the regulated community. If requested, we would be happy to provide additional information on these specific examples as well as regards other major rulemakings.

First with regard to vessel discharges, including ballast water, we are in the unfortunate position of having to work with a legislatively created dilemma where two agencies acting under two different statutes are regulating the same discharges. Specifically, the US Coast Guard is regulating ballast water discharges under the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA) as amended by the National Invasive Species Act of 1996 (NISA) while the EPA is regulating those same discharges under the Clean Water Act's National Pollutant Discharge Elimination Program (NPDES) due to a 2005 decision in the US District Court for the Northern District of California (Northwest Environmental Advocates et al. v. EPA) that ruled the EPA regulations excluding discharges incidental to the normal operation of a vessel (which include ballast water) exceeded the EPA's authority under the Clean Water Act. While we applaud the US Coast Guard's and EPA's efforts to reconcile the two programs, the industry is still left with certain concerning provisions including the very expensive ongoing testing and monitoring requirements required even after extensive testing has been done during the type approval process. In addition, although we were hopeful that a reasonable solution would be identified, EPA's current position that they will take a USCG compliance date extension into consideration but "will not be legally bound by it" adds additional uncertainty to the compliance strategy of vessel owners. Although we applaud the efforts of the US Coast Guard and EPA to reconcile this variance, the industry is left with an inability to meet the requirements of the US Coast Guard and EPA programs ultimately requiring a US type approved ballast water treatment system, of which none have been approved to date and none are expected to be issued a US type approval under late 2014 at the absolute earliest. Also, the continued ability of individual states under the NPDES Section 401 certification program to attach state specific conditions leading to a patchwork quilt of requirements across the coastal and port states to which domestic and international shipping calls provides yet more uncertainty as to what will be required of vessels as they call in ports in different states. Finally, the US Coast Guard regulations provide discretion to sector commands to permit a vessel to call, under stipulated conditions, in a US port in the rare instance when a ballast water treatment system becomes inoperable during a vessel's

transit and the vessel is unable to repair the system without shoreside expertise; although it does not appear such discretion is authorized under the EPA's vessel general permit. We would propose that a far more efficient and clear program would be the creation of one federal program within the Clean Water Act that regulates these discharges and preempts state actions inconsistent with the federal requirements, similar to the program already in place for Armed Forces vessels under the Uniform National Discharge Standard (UNDS) program. Such a single program administered by both the US Coast Guard and EPA would avoid the current uncertainties resulting from these inconsistencies.

The second example relates to the requirements associated with the creation of the North American Emission Control Area (ECA) which now mandates the use of 1% sulfur fuel and will mandate the use of 0.1% fuel beginning in 2015 within 200 nautical miles of the US baseline, although vessels may choose to utilize scrubbers as an alternative compliance option to these provisions. While the industry has seen increases in fuel costs associated with use of the 1% fuel, implementation of the 0.1% fuel provisions in 2015 are estimated to significantly increase fuel costs even based on the assumption that the fuel will be readily available in US ports, a far from supportable assumption at this point in time based on the uncertainty as to whether refineries will adjust their production to meet this new need and marketplace or maintain their current productions with low sulfur streams being directed toward land based users with equally attractive profit margins. For a number of ships, particularly ships engaged in coastal trade, the significant increased costs associated with use of low sulfur fuel can be mitigated by the installation of exhaust gas scrubbers and continued use of higher sulfur fuels which provide emissions reductions consistent with the use of low sulfur fuels. However, the EPA's vessel general permit (VGP) which covers exhaust gas scrubber discharges prevents the use of a mixing zone to measure effluent levels where the IMO program was invited to consider permission of such use. Based on this possible variance, it is likely that scrubbers currently designed, purchased, and delivered to meet the IMO requirements could not meet the EPA VGP requirements, thus potentially eliminating a very cost effective solution to the problem associated with significantly increasing fuel costs associated with low sulfur fuels. As is the case with the variations between the USCG and EPA programs discussed above, this inconsistency can be remedied with the creation of one federal program within the Clean Water Act that regulates these discharges consistent with international requirements and preempts state actions inconsistent with the federal and international requirements.

Thank you for the opportunity to testify at his hearing. We would be happy to answer any questions or provide additional information relative to the points made in this testimony.

Written Statement of James Roussos
Lamonica Fine Foods & Oceanside Marine
Millville, NJ

House Transportation and Infrastructure Committee
Subcommittee on Coast Guard and Maritime Transportation

March 4, 2014

Mr. Chairman, Ranking Member Garamendi and Members of the Subcommittee, my name is James Roussos and I serve as the Vessel General Permit ("VGP") Coordinator at Lamonica Fine Foods and Oceanside Marine in Millville, NJ. We have been harvesting and processing clams in the U.S. for 92 years, producing fresh, frozen and canned products from wild surf clams and ocean quahogs that our boats harvest and bring to the dock.

Our clam fleet consists of five boats ranging in size from 85 feet to 110 feet in length. All our fishing boats are subject to the new VGP regulations issued by the EPA on March 28, 2013. These regulations cover 27 discharge categories incidental to normal operation of vessels greater than or equal to 79 feet in length. The permit also covers ballast discharge requirements for some of our vessels and for those vessels that we do not own that also deliver product to our plant.

While we support common-sense environmental protection we are very concerned about the negative impacts of the VGP for what we believe constitutes little environmental benefit. The permit requirements are incredibly complicated and not written for fishermen. It is also very extensive -- the Final 2013 VGP is 194 pages in length and the Final 2013 VGP "Fact Sheet" is 198 pages long. Indisputably, the burden to the industry is not commensurate with the almost non-existent environmental "benefit".

Also, we wish to point out that all commercial fishing vessels and charter fishing boats in the U.S. that are < 79 feet in length will be subject to the small boat permit ("sVGP") starting in December 2014. Many of the points we raise here today will cross pollinate with the owner/operators of these vessels as well. These fishermen, with smaller boats and operations, will not have the resources to understand the permit, much less comply. It is in fact, discriminatory to impose big government, big business requirements on these small businesses. And the crushing effect upon this segment of the industry, is even less comprehensible, when the near-zero effect of the permit is calculated.

We detail some of our concerns below regarding compliance, uncertainty, reporting and record keeping requirements and some details on problematic issues. In closing we offer recommendations for consideration.

Permit Compliance

The new VGP authorizes the owner/operator of a vessel to discharge ballast and incidental discharges in accordance with permit regulations and in compliance with the Clean Water Act (CWA). The permits carry very harsh fines that could cripple a small business.

For example, any noncompliance with the requirements of this permit constitutes a violation of the Clean Water Act (CWA) that may result in monetary fines. Further, any knowing violation of these requirements is punishable by a fine of not more than $10,000, or by imprisonment for not more than 2 years for a first offense (or both); and for a second offense the fine is $20,000 and 4 years in prison (or both).

Furthermore, each day a violation continues is considered a separate violation of the permit and carries further punishment for each day of the violation. What is the precedent or justification for this? Isn't a violation a violation? This permit, while accomplishing precious little, is menacingly overzealous in extracting payment for non-compliance. The permit is not written in a way to engage industry and to partner with industry to solve problems. It is an uncompromising, one-size-fits-all, for anything that floats with unreasonable retribution and punishments.

Further, where requirements and schedules for taking corrective actions are included in the permit requirements, the time intervals provided are not grace periods but schedules considered reasonable for making repairs and improvements. A vessel must be returned to compliance as promptly as is possible but no later than the time period specified in the regulations.

Finally, if a discovered problem constitutes a violation of the permit, conducting the required assessment and correcting the problem does not absolve the owner/operator from liability for the original violation. A failure to comply with the assessment and correction constitute additional permit violations. EPA has also indicated it may impose additional requirements and schedules of compliance that are more stringent than specified in this permit which will supersede the original requirements of the Final 2013 VGP.

In the limits specified for this permit the EPA has defined the term *"minimize"* to mean to reduce and/or eliminate to the extent achievable. While this seems innocuous language enough, practically speaking it will be extremely hard for fishermen and deck hands to recognize what constitutes an actual reportable violation.

Business Uncertainty

We understand several members of the environmental community (i.e. NWF, NRDC, and Northwest Environmental Advocates) recently (June 2013) filed a second legal challenge against the EPA and the new NPDES requirements. This means the new VGP regulations

may be subject to change at the same time we are coming into compliance. How does enforcing this requirement on small businesses make sense if it is subject to change from outside pressures?

This situation contributes to business uncertainty and complication since coverage under the VGP requirements for commercial fishing vessels that possess ballast water tanks begins December 19, 2013. We do not expect the case to be resolved before the permit requirements are to be enforced so companies that take action now may be required to change course which could come at some cost to those businesses.

Extensive Inspection, Monitoring, Reporting and Compliance Record Keeping

The following is an accounting of the inspections, monitoring, reporting, recordkeeping and compliance schedules and requirements for all VGP-covered commercial fishing and charter fishing boats. These requirements are excessive and burdensome on small fishing operations. Independent fishermen who do not have the regular services of someone to help them with their permits and reporting or who do not read the Federal Register on a regular basis will be on their own to understand and comply with these requirements or risk monetary fines and worse.

I believe that industry-wide, we will be forced to hire consultants to decipher the permit and to create action plans and training devices. And most will have to continue paying consultants to maintain compliance going forward. Those that do not hire outside help may just ignore the requirements and fight a battle that they are destined to lose. And to what end? This permit, as applied to fishing vessels, has teeth but no meat. It will not improve the conditions of the waterways and it will not prevent invasive species migration because our behaviors do not contribute to any problems that the permit attempts to solve.

Here is a sampling of new permit requirements --

Routine Vessel Inspections must be conducted at least once per week or per voyage, whichever is more frequent. Findings must be documented in the official ship's log or as a component of the permit recordkeeping and must be signed by the person in charge.

Extended Unmanned Period Inspections (EUP) must be conducted if a vessel is unmanned for a period of 13 days or greater. This will require a three-part inspection process before the vessel goes in EUP status to include (1) a pre- lay-up inspection; (2) a periodic external observation of the vessel and surrounding waters every 2 weeks; and (3) a post lay-up routine visual inspection.

Comprehensive Annual Vessel Inspections must be conducted at least once every 12 months. These can be done by the master, owner, or trained marine engineer or class society representative.

Dry Dock Inspection Reports must be prepared and provided to the EPA, upon request. A report must be prepared each time a vessel is in drydock.

Additional Recordkeeping also requires that all owner/operators must retain records onboard (either paper or electronically) that include a detailed 11-point inspection program. The vessel owner/operator must also retain copies of all reports, certifications, records, monitoring data, violations, and other information required by this permit and records of all data used to complete the Notice of Intent Form (NOI) and Permit Authorization and Record of Inspection (PARI) for a period of at least 3 years from the date that your coverage under this permit expires or is terminated. All information must be made available to EPA upon request. Fishing vessels have no offices or clerks on the boats. For the fisheries to face fines and imprisonment, for lapses in record keeping, or errors and omissions is unjustifiable.

Additional Ballast Recordkeeping also require that all owner/operators of vessels equipped with ballast water tanks must keep on board additional written records detailing all ballast water activities.

Regarding Annual Reporting all owner/operators must submit an Annual Report for each year they have active permit coverage. Annual Reports must be completed each year and submitted by February 28 of the following year.

Regarding Training: all owners/operators must ensure that the master, operator, person in charge, crew members who are involved in discharge management are adequately trained in implementing the VGP permit. Training need not be formal or via an accredited course but it is the owner/operators responsibility to ensure that employees are given the necessary information to conduct proper procedures.

Regarding Reporting for Corrective Actions: if any of the following problems are identified a vessel owner/operator must take action to ensure the problem is eliminated and will not be repeated:

- You violate one or more effluent limits or any other requirement of this permit or the EPA makes that determination during an inspection;

- You become aware or EPA determines that your measures do not control discharges as required; or

- You find (or EPA determines) that your pollution control measures are not being properly operated and maintained or are not having the intended effect.

Following identification of any of the above problems you must conduct a corrective action assessment into the nature, cause, and potential options for eliminating these problems. This assessment must include the following --

• A description of the problem(s), including date, time, and locations on the vessel where it occurred, types of impacts observed, and the name, title and signature of the person who identified the problems and also of the person who recorded the problem.

• An explanation of the cause of the problem(s); if known. If unknown at the time of the assessment, provide an indication of what steps will be taken to determine the cause.

• A description of the corrective action taken to eliminate the problem and a schedule of activities for completing such actions within the EPA's specified deadlines.

• An indication if drydock is necessary to address the problem and when it will be scheduled.

• Once the corrective action is implemented, record the date and time of the action, a description of the corrective action implemented, and the name, title and signature of the person recording this information.

You must retain the findings of your corrective action assessment in your recordkeeping documentation in accordance with all the requirements of this permit.

Regarding the Scheduled Deadlines for Eliminating Problems – The EPA has indicated that simple corrective actions with respect to many permit requirements can be accomplished immediately. These requirements include, but are not limited to housekeeping and certain operation and maintenance requirements. In these situations, you must return to compliance immediately.

Restoring compliance with some permit requirements may require additional time for the owner/operator to reasonably correct the problem. For minor problems requiring simple adjustments the EPA has set a 2 week schedule for repair. Actions that require new parts or equipment to be ordered are allowed 3 months. Large and more complex actions that require drydock repairs must be fixed at the next scheduled drydock.

Some Specific VGP Areas of Concern

There are some specific elements of the VGP that remain problematic to the commercial fishing industry. These include but are not limited to the following.

Bilgewater Water --
The EPA requires that all vessels minimize the discharge of bilgewater into waters subject to this permit. This can be done by reducing production of bilgewater, disposing of onshore, or discharging outside 3 nm (recognizing the latter must be consistent with MARPOL requirements).

This provision, and what constitutes an actual violation, is unclear to our fishermen since bilge pumps are automatically triggered while the vessel is underway or tied to the dock

to prevent the accumulation of water in the bilge. This precaution keeps boats from sinking. Are fishermen required to turn off their bilge pumps or collect bilgewater for shore-side disposal while in permitted waters?

Ballast Water --
While our fishing vessels are operated in such a way that they are not likely vectors of aquatic invasive species, certain discharges of ballast water must comply with the requirements of the VGP. All owner/operators of vessels equipped with ballast tanks covered by the VGP must train all crew involved in ballast water discharge/treatment. As part of a Ballast Water Management Plan (BWMP), owner/operators must maintain a written training plan. The BWMP must be developed specifically for each vessel and be available to the EPA upon request.

According to the EPA, vessels with ballast water tanks subject to the VGP may use one of the following 4 management methods to meet permit requirements.

(1) Ballast Water Treatment System (BWTS)
Must be a system shown to be effective by testing in accordance with the EPA-ETV protocol for verification by an independent third party. Use of a BWTS carries substantial and comprehensive monitoring, testing, calibration, effluent monitoring parameters, biocide limitations, record keeping & reporting.

(2) Onshore Treatment of Ballast Water
If a compatible onshore treatment system is available, an owner/operator may safely transfer ballast water provided all piping and connections are leak free.

(3) Use of Public Water Supply (PWS)
Vessels using water from a PWS (US & Canada) must maintain records, including receipts indicating the originating system. Vessels using PWS water as ballast must have previously cleaned the ballast tanks and never introduced ambient water to those tanks and supply lines. If untreated water is introduced to the tanks at any time, they must be cleaned before the vessel can return to using PWS.

(4) Zero Discharge of Ballast Water
Vessels may also meet the requirements of this permit by not discharging any ballast water into waters subject to this permit.

While some fishing vessels may be able to operate using the least onerous alternatives outlined above, they must still comply with all other associated requirements (i.e. training, planning, and reporting) even if they pose a minimal threat from ballast water discharges.

And lastly on this issue, some elements of the VGP still remain unclear to our industry even while we had to be in compliance in December 2013. For example, some fishing vessels in our region and elsewhere utilize fish holds filled with ambient seawater as "temporary" ballast tanks to improve trim and vessel handling while traversing to the

fishing grounds. Once fishing activities occur, the catch is added to the fish hold and help provides stability.

We have tried to understand the specific requirements to ensure compliance but the EPA has not been able to address our questions. We believe this supports our request for regulatory relief.

Anchor and Chain Locker Effluent

The EPA is requiring that anchors and chains be carefully and thoroughly washed as it is being hauled out of the water each time to remove sediment and marine organisms. This is not a reasonable requirement. First, the anchor is deployed into the ambient seawater and seabed and typically not for extended periods of time. It simply does not make sense to have to carefully and thoroughly wash the anchor chain each time it is retrieved since risk of contamination is miniscule. Second, most if any sediment that may be attached to the anchor's flukes will be effectively washed by ambient seawater action once the anchor is retrieved, stored and the vessel in underway. Third, there is the potential for safety to be compromised with this requirement. Despite our protestations, this requirement remains subject to VGP requirements.

Graywater

The EPA requires that all owner/operators minimize graywater discharges while "in port". The term "in port" is defined as anchored, moored, or otherwise secured while located in any waters subject to this permit which are inside the baseline of the U.S. territorial sea.

If an owner/operator cannot store graywater on the vessel, one must minimize production of it while in port. If graywater is to be discharged in waters subject to this permit, the introduction of kitchen oils to the graywater system must be minimized. When cleaning dishes, one must remove as much food and oil residue as practical before rinsing dishes. Excess oils, including animal fats and vegetable oils, used during cooking must not be added to the graywater system.

This is problematic for several reasons. First, our vessels and most others are not equipped to store graywater so there is no alternative to discharging some amount while in port. Additionally, some crewmembers may live on vessels for some period of time when the vessel is in port thereby complicating the requirement to minimize graywater discharge and production.

Seawater Cooling Discharge

The EPA is requiring limiting the discharge of seawater cooling water overboard only when the vessel is underway. This is technologically infeasible and does not reflect knowledge of the equipment commonly used on board commercial fishing vessels. First, refrigeration condensers are in use at all times, circulating ambient seawater as needed to maintain efficient cooling, which is critical to maintaining product quality. There is no way to capture this seawater discharge so it should not be a requirement to do so. When vessels are in port, particularly when they are waiting to discharge their product, there is

no alternative to running refrigeration condensers and auxiliary generators to maintain power and keep seawater at appropriately low temperatures. Vessels must also access auxiliary engines for power generation. Wet exhausts, cooling water discharges and condensation cannot be captured or stored.

Fish Hold Effluent
All reasonable steps must be taken to prevent the discharge of excess fish hold water and ice while the vessel is stationary at the pier. If large solid pieces of fish waste are contained in the fish hold effluent (e.g. fish heads, internal organs) the fish hold effluent may not be discharged while the vessel is pier-side and stationary, unless a physical separation method is used (e.g. ½ inch coarse screens or smaller, a screened hose having a ½ inch screen opening or smaller, filters, other methods to remove large solids).

For commercial fishing vessel owners/operators that are unloading catch at a shore-based seafood processor or other pier they must, if possible and economically achievable, discharge the fish hold effluent (incl. dirty ice) to that shore-based facility instead of discharging to surrounding waters.

Availability of Individual Vessel Permit Information

The EPA has not clarified whether the recordkeeping information submitted by permitted vessel owner/operators will be made available to the public. We are concerned the information may not be adequately protected and could lead to potential problems under the citizen lawsuit provision of the Clean Water Act.

If violations are publicized it will allow anyone to seek compensation for a portion of fines to be levied. We do not want to create a cottage industry of litigators who peruse EPA enforcement data bases, file suits, and recover costs from the fishing industry. We believe that VGP violations should be exempt from the citizen suit recovery provisions. At a minimum, we believe that confidentiality should be provided so fishing vessel operators don't have to spend their time and money in court rather than pursuing their livelihoods.

General Summary

The VGP has no stated goals. It exists as a disjointed collection of ideas that have coalesced into a suite of Federal regulations. It is confusing, unnecessarily cumbersome, decidedly not user-unfriendly, and in some cases irrational. It is a blunt instrument that carries severe penalties for those who violate its law, including possible fines and imprisonment for a first offense!

It appears that this permit is trying to prevent ocean and waterway pollution originating from the vessels that travel them. A worthy goal, however, it is misguided for anyone to endeavor to construct one set of criteria for all of the different types of vessels that exist. That is the main fallacy of this document. There are aircraft carrier sized super tankers

and 24 foot skiffs and everything in between. How could it be possible for one pollution permit to apply to all? Such is the dilemma that the fishing industry faces.

First it is an issue of application. To say that the permit will reduce ocean and waterway pollution as justification to apply it to all vessels in the oceans and waterways is to not understand the nature of the different vessels that exist. For example, central to the permit is the regulation of ballast water discharges. Why is this? It is because ballast water has been known to carry foreign invasive species, and other microscopic organisms that are not wanted in this country.

This problem should not apply to the commercial fishing industry of this country. Our fishing vessels typically stay in one small area off the U.S. and normally return to the same dock from which it departed. When we do use ballast water, and probably most do not, it is either temporary- taking in seawater and releasing it back in the same water, or it is seawater that will be held for some time and then released into the same water from whence it came, or it is fresh potable water. All risk free, yet this permit would create enormous volumes of paperwork and on-going documentation, to say what was just said in one sentence. This permit, if applied to fishing vessels, will not make the waterways cleaner. It just does not apply to the fishing industry.

Second, the permit is designed more as a penal document than a constructive attempt to reduce pollution. Is it likely that a captain will report his vessel when he sees too much vegetable oil in the sink? What violation would one really expect a captain to report? So what we have here is a document, with rigorous demands and overly harsh penalties that will most likely only come into play AFTER a serious environmental event, in the form of punishment. The fishing industry does not need more punishment, it needs more education.

For example: the permit requires that the permit holder must justify and report which cathodic protection he chooses to put on the bottom of his boat. Forever, up until now, everyone including the U.S. Navy used zinc anodes to protect the hull from electrical current. These zincs are designed to sacrifice themselves to absorb electrical charges that would otherwise eat at the steel boats. They must be changed periodically as they are consumed.

The State of Maryland has (or is about to) ban zinc anodes in favor of aluminum alloy, which is less environmentally toxic. Doesn't it seem odd that a state is ahead of the federal government on this issue? It would seem that all the expense it took to write and present this permit, with its total lack of effectiveness, could have been directed to education. With increased education this could be made much simpler.

After some research, we at LaMonica Fine Foods determined aluminum anodes to be a suitable substitute for zinc. To our knowledge, we are the first to install them on a fishing vessel and we did it without the threat of the Federal Government or extensive reporting requirements.This permit will make every fishing concern research aluminum anodes independently, where all of that information could be provided by a friendly government

interface with the industry. Starting a user friendly web site or send out mailings or hire some fishermen to go out and talk to other fishermen to spread the word would be more welcome than a violation notice. Almost every applicable point in the VGP would be better handled in this manner. As an industry, we recognize the need to keep our waterways clean. Give us the tools to help contribute to that end.

Recommendations

Based on our concerns that the VGP is extremely complicated, carries risk of heavy fines and exposure to citizen suits under the Clean Water Act, is overly burdensome in terms of reporting/monitoring/compliance, is already the target of repeated litigation by the environmental community, and is disproportionate in scope to any actual environmental benefits -- we recommend the following:

(1) Reinstate the longstanding NPDES exemption for discharges incidental to the normal operations for commercial fishing vessels and charter boats, regardless of size;

(2) We support addressing critical ballast water management issues to prevent the spread of aquatic invasive species on vessels and activities that actually pose a serious threat to the introduction and spread of AIS.

Mr. Chairman, this concludes my testimony. Thank you for the opportunity to discuss our concerns with the NPDES VGP requirements.

Testimony of Rod Jones
President and Chief Executive Officer of the CSL Group

before the

Subcommittee on Coast Guard and Marine Transportation
House of Representatives Committee on Transportation and Infrastructure

regarding the

North American Emission Control Area Impacts

March 4, 2014

I.
Introduction

Good morning Chairman Hunter, Representative Garamendi, and distinguished members of the Subcommittee. Thank you for inviting me to testify. I am Rod Jones, President and Chief Executive Officer of the CSL Group. I am privileged to speak with you today about the North American Emission Control Area *or* "ECA" and its potentially problematic unintended consequences to the industries which our company supports and its adverse impact on the environment and air quality which the ECA is, ironically, supposed to protect. CSL is a North American shipping company, serving the construction, manufacturing, energy, and agriculture industries. Our niche is small, self-unloading bulk ships on international short sea routes. I am pleased to represent our United States operations which are headquartered in Beverly, Massachusetts. I also represent the concerns of the Maritime Industrial Transportation Alliance and it members which is a coalition of industry members who rely on Short Sea Shipping.

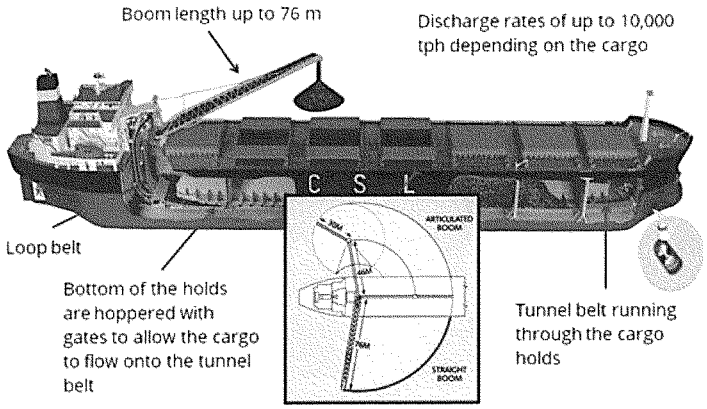
A. Prior Testimony

In April 2012, CSL addressed this Subcommittee regarding the environmental benefits of Short Sea Shipping and the looming unintended consequences that the North American ECA may have on coastal shipping in the United States. Eighteen months later, I am here to revisit the themes of our original testimony with updated information and observations on the ECA and its effect on the economy.

I am accompanied today by one of our valued customers, Mr. William Terry of Eagle Rock Aggregates, Incorporated. Mr. Terry is the CEO of Eagle Rock Aggregates and will speak to the very real impacts that his company has already seen as a result of the surge in fuel costs as the ECA implementation has begun. Eagle Rock is based in Northern California and serves the construction industry.

B. CSL Group

CSL specializes in the marine transportation and handling of over 70 million tons of dry-bulk cargoes annually. Examples of the strategically important cargoes that we carry include iron ore for steel manufacturers, aggregate for road building and repair, coal and petroleum coke for hydro-electric utilities, and gypsum for construction. CSL owns or operates over 60 ships and marine equipment all over the world. About one third of those ships are committed to serving the bulk cargo delivery needs of the U.S. market. Most of our North American trade requires coastal routing along the East and West coasts of the United States, typically well within 200 miles from shore. Our ships are specially designed to meet the very unique demands of our customers, with their relatively modest size for nimble operation and sophisticated self-unloading cargo gear, which eliminates the need for shore based cargo handling. Our ships are also fitted with distinctly designed cargo holds which leverage gravity to reduce the need for mechanical cargo transfer systems.



The graphic above highlights the very unique and environmentally friendly features of a typical self-unloading short sea ship.

II.
ECA Regulatory Requirements

Our ships are required to meet all of the provisions of the International Convention on the Prevention of Pollution from Ships (MARPOL), including Annex VI of the convention. Annex VI defines measures to reduce air emissions from ships. Under the auspices of Annex VI, the North American ECA went into effect on August 1, 2012. The ECA is designed to reduce emissions of Nitrogen Oxides (NO_x), Particulate Matter (PM), and Sulfur Oxides (SO_x), the latter by limiting the sulfur content in fuel to set levels. Promulgated by the EPA and enforced by the Coast Guard, the ECA creates a 200 mile zone around the United States and Canada (with the exception of the Aleutian Islands and other limited outlying areas). Upon entering the 200 mile ECA, ships must switch from heavy marine fuel oil to a low sulfur fuel containing no more than 1% of sulfur to reduce air emissions on or after August 1,

2012. In 2015 the sulfur levels in marine fuel will be dramatically further lowered (by regulation) to 0.1% for all ships regardless of their size when operating inside of the ECA.

We are concerned that the current 200 mile ECA boundary was established without firm scientific rationale for all vessels; particularly vessels engaged in the short sea trade (that routinely or exclusively operate within the 200 mile ECA) or self-unloading vessels which, by competitive necessity, are typically smaller vessels, with corresponding smaller and less emitting propulsion systems that traditionally operate in short sea trades.

A. The ECA Revisited

I address this Subcommittee with a sense of urgency as our window for regulatory relief is closing with the pending regulations set to take effect on January 1, 2015. While we have had extensive dialogue with the Coast Guard and EPA, we remain at loggerheads over the critical issue of the ECA boundary for smaller and therefore lower emitting coastal vessels such as ours, or an equitable impact based equivalency standard.

We wholly support the ECA's provisions relating to NOx reductions but object to the method in which certain ships must attain compliance with the SO_x (and PM) requirement. Since SO_x is directly related to the sulfur contained in fuel, the ECA requires ships to use reduced sulfur fuels within a 200 mile zone from the shore regardless of service, type, or size.

I will discuss why the broad, 200 mile ECA boundary is not warranted for all vessels that can achieve the EPA's clean air goals by alternative means. Moreover, I hope to clarify that our unique operational niche and purpose built ships were simply not factored into EPA's data collection and analysis that led to the creation of the 200 mile ECA boundary.

Our collective testimony will outline:

- The disparity between the EPA's predictions of fuel cost increases caused by the North American ECA, and actual cost increases;
- Our scientific justification for our proposal;
- The impacts on the economy that relies on clean, safe, and efficient Short Sea Shipping; and
- Potential regulatory action or pursuit of impact based equivalencies - not to avoid compliance with the ECA, but rather, tailor it in a manner that makes environmental and economic sense for our types of vessels and routes.

III.
EPA vs. Industry Predictions

In March 2010 the EPA released its regulatory announcement introducing the North American ECA and its mandated components. The announcement predicted that associated fuel cost increases resulting from the ECA were expected to be modest. Specifically, the document claimed "operating costs for a ship in a route that includes about 1,700 nautical miles of operation in the ECA may increase by about 3 percent."[1]

The announcement neglected to mention that most of the deep draft ships trading in major United States ports are making significant trans-ocean voyages of which, only a small portion (the 1700 nautical miles referred to by the EPA) is spent within the ECA. The rest of the voyage (5-10 thousand miles) would be spent at sea where higher sulfur fuels can be used. This simple example, indeed, supports the notion of a 3% cost increase for trans-ocean vessels. In the case of Short Sea Shipping, however, voyages are the opposite of trans-ocean trade. Most short sea voyages are largely or completely within the ECA, requiring exclusive use of higher-priced, low-sulfur fuel. Thus, the EPA's announcement is simply irrelevant to short-sea ships and their voyage patterns.

A. Marine Fuel Dilemma

Ships' large propulsion engines typically use Intermediate Fuel Oil which is a residual oil that is a by-product from the refining process. The engines and their fuel delivery systems are designed for these heavy fuel oils. Our research indicates that the petroleum industry will not produce 0.1% sulfur intermediate marine fuel oil (IFO) which will force shippers to use a lighter distillate referred to as Marine Gas or Marine Diesel Oil (MGO/MDO). While Marine Gas Oil meets the 0.1% sulfur standard and is more commercially available, it is priced with a far greater premium.

When CSL last addressed this Subcommittee about a year and a half ago, we predicted that fuel costs would increase for our shipping sector by at least 40 percent from pre-ECA prices – based on current pricing and without the effect of supply and demand. Our predictions now prove to be accurate. Our fuel costs for 0.1% sulfur fuel have spiked as much as 40% (depending on the port) over the Intermediate Fuel Oil that is used beyond 200 miles from shore.

Even among the low sulfur fuels, Marine Gas Oil (0.1% sulfur) market prices alone are as much as 30% higher than ECA compliant 1% low sulfur fuel and as much 40% higher than Intermediate Fuel Oil which is used during the sea voyage. These aren't predictions but actual market fuel prices; and far exceed the EPA's inaccurate 3% prediction. We haven't even reached the major milestone of January 1, 2015 when 0.1% sulfur fuel supplies will be in even higher demand potentially adding to such these already great price increases.

In August of 2013 CSL calculated that, on average, each ship would bear about $815,000 of additional annual fuel costs (the cost differential of 1% and 0.1% sulfur fuel) to comply with the ECA.

[1] EPA Regulatory Announcement 420 F-10-015 March 2010

For CSL alone, the cost could exceed 14 million dollars per year, with no added benefit to the environment when using 0.1% fuel beyond 40 miles, according to our scientific study. Below is a table drawn from a fuel price index on February 11, 2014.

Fuel Type	Sulfur Content	Cost[1] per Metric Ton	Premium per Metric Ton	Increase
New Orleans Intermediate Fuel Oil (IFO) 380	3.5%	613		N/A
New Orleans Low Sulfur (LS)	1%	719	+$106 (over IFO)	+15% (over IFO)
New Orleans Marine Gas Oil	0.1%	1021	+$302 (over LS) +$408 (over IFO)	+30% (over LS) +40% (over IFO)
San Francisco Intermediate Fuel Oil (IFO) 380	3.5%	639		N/A
San Francisco Low Sulfur (LS)	1%	828	+$189 (over IFO)	+23% (over IFO)
San Francisco Marine Gas Oil	0.1%	1050	+$222 (over LS) +$411 (over IFO)	+22% (over LS) +40% (over IFO)

[1]Based on February 11, 2014 Platts Bunkerwire

On the date of our last testimony on April 26, 2012, the premium between Intermediate Fuel Oil and Marine Gas Oil in New Orleans and in San Francisco were both 33% and now are both at 40%.

B. Omission of Short Sea and self-unloading Vessels

Through our extensive dialogue with the EPA and U.S. Coast Guard, we have found that when creating the 200 mile boundary itself the EPA did not consider short sea shipping or the consequence of potential modal shift to truck and rail in their analysis.

We found that the Short Sea Shipping sector (more specifically in our testimony, self-unloading vessels) was completely omitted from their studies. The EPA focused its examination on large vessels engaged in trans-ocean trade for which modal shift is not a possibility or an issue.

In a June 12, 2012 letter, the EPA responded to questions of this Sub-Committee regarding adverse impacts on short sea shipping. In their response, the EPA detailed a flawed representation of short sea self-unloading vessels in their ECA justification, admitting that this vessel type was collectively gathered with "other bulk vessels."[2] They cited the study of two trans-ocean routes (using a tank ship and container ship as test subjects traveling between the United States and Singapore). They also studied a cruise ship traveling between Vancouver and Alaska, claiming the cruise ship example as being closest to a coastwise vessel. In their study they cite that fuel cost increases would be easily absorbed by spreading

[2] June 12, 2013 EPA Response; Enclosure Paragraph 2.h

the cost over the vast passenger pool with an estimated increase in ticket price of about 1.7% - 6.6%.[3] MITA objects to all of these comparisons to short sea self-unloading vessels (especially the cruise ship example) because of the completely different business model used by the self-unloading shipping industry to transport low value commodities at a far tighter economic margin than cruise ships. The example used by the EPA is synonymous comparing apples to oranges.

Therefore, precisely in an attempt to fill this technical data gap left by EPA, we commissioned the Sahu/Gray study, entitled *"Modeling the Air Quality Impacts of Short Sea Shipping Emissions and Implications for the North American Emission Control Area" to* focus on Short Sea Shipping.

IV.
Independent Analysis

In order to gain a full appreciation of the ECA, its benefits and its consequences, CSL co-sponsored a study entitled *"Modeling the Air Quality impacts of Short Sea Shipping Emissions and Implications for the North American Emission Control Area."* The analysis, led by Drs. Ranajit Sahu and H. Andrew Gray, formally studied CSL ships operating in the United States to measure the emissions impact of small horsepower ships as a sub-group within the larger maritime community. (Dr. Sahu's and Dr. Gray's curriculum vitae are included in Exhibit A of the Report) The study closely examined sulfur dioxide (SO_x), the main pollutant emitted that is directly a consequence of sulfur levels in the fuel – and hence the pollutant directly related to fuel choices. The study carefully and thoroughly analyzed East Coast and West Coast shipping routes and methodically used historical meteorological data consistent with EPA protocols.

In total, 12 ships were selected to represent the "typical short sea shipping vessel" (from a propulsion horsepower perspective and therefore emissions basis). The study analyzed the impact of "worst case" short sea shipping SO_2 emissions scenarios on shore air quality from the largest of these 12 ships. Their study, using the CALPUFF dispersion model, showed that air quality impacts from such ships on shore-based receptors diminished, as expected, as the ships moved further away from the coast - with a sharp drop in impact at about 40 miles offshore – i.e., well within the EPA's arbitrary 200 mile ECA boundary. That study was presented to this Subcommittee in April of 2012 and may be reviewed by visiting either of the links below:

Summary Report
http://www.cslships.com/en/media-center/brochures/define-defend-and-promote-summary

Full Report
http://www.cslships.com/en/media-center/brochures/define-defend-and-promote-full-report

[3] June 12, 2013 EPA Response; Enclosure Paragraph 2.d

A. Analysis Conclusions

The study proves that smaller ships (with corresponding lower horsepower propulsion systems) used in short sea trades, have negligible environmental impact on the East or West Coasts of North America when operated beyond 40 miles from shore. More specifically, the results indicate that ships fitted with propulsion systems of 20,000 horsepower (14,913 kW) or lower had negligible air quality impacts on the shore even when using pre-2012 fuel with a typical sulfur content of 2.6%. Despite using a fuel assumption of 2.6% sulfur, (over twice the sulfur content permitted by the current ECA and 26 times the sulfur content of the pending 2015 ECA), the modeled vessels still performed exceptionally well indicating negligible SO_x concentrations at the coastline when the ship was 40 miles off-shore and beyond.

B. Post Study Dialogue

Following the release of the Sahu/Gray study, the EPA reviewed its findings and offered some strange and puzzling comments as well as comments on CSL's April 26, 2012 testimony before this Subcommittee. In a May 25, 2012 letter, the EPA asserted that the:

i. Study only examined SO_x emissions from a single ship and didn't account for particulate matter or NO_x;

ii. Study's comparison of one ship's data to the National Ambient Air Quality Standard (NAAQS) was not meaningful;

iii. Study erroneously used the CALPUFF dispersion model rather than photochemical air quality modeling;

iv. Study incorrectly concluded that Short Sea Shipping vessels do not affect air quality; and

v. Study's claims about modal shift were unsubstantiated.

In order to better explain the study's conclusions, Dr. Sahu visited the EPA's Transportation and Air Quality staff at its Ann Arbor Michigan offices on June 12, 2012 to discuss their concerns. On August 20, 2012 CSL formally responded to the EPA's May 25, criticism by reiterating our commitment to meet our responsibility to improve air quality but strongly disagreed that 200 miles is the correct enforcement distance for all ships. Our response also clarified respectively that:

i. The Sahu/Gray study specifically studied SO_x because it is the primary pollutant that is affected by the fuel's sulfur content. Additionally, there is no particular industry objection to the NO_x requirements and thus no focus was placed on studying NO_x. Particulate Matter was not specifically addressed in the study as we believe that Particulate Matter will behave substantially like the gaseous emissions such as SO_x which was studied.

ii. We disagreed with the assertion that our comparison to the NAAQS was not meaningful as it was the best and most appropriate standard. The strict one hour SO_2 NAAQS is used by the EPA itself and is the most meaningful metric for judging SO_2 impacts. The EPA could not provide an alternative comparison that would be considered more meaningful. Our study compared the one hour NAAQS numerical value to the one hour impact from the largest (most emitting) vessel using 2.6% sulfur fuel as a test case, assuming for conservative test purposes, that the vessel was within a port area at 100% power (worst and improbable cases). To clarify, we propose that ships should use 1% sulfur fuel between 50-200 miles (i.e., with a margin of 10 miles beyond the study's 40 mile finding) from the coast and 0.1% sulfur fuel within 50 miles from the coast – not 2.6% sulfur fuel. Further, it is operationally infeasible (if not impossible) for a ship to be operated at 100% power within a port area, making this portion of the study exceptionally and purposely conservative.

iii. Since we are not pursuing a change to the NO_x requirements, we found the use of photochemical air quality models to be unwarranted. The CALPUFF model was previously used by the EPA and is widely used by the modeling community. Moreover, the EPA's model choice does not guarantee that its results are more meaningful. Further, under the ECA, NO_x is controlled through engine design and is thus a component of engine manufacturing.

iv. We contend that the use of our data in arriving at our conclusions is well supported and accurate unlike the EPA's analysis which, we point out, simply omits any consideration of such short sea ships. We attest that short sea ships, like any other ship or transportation mode consuming fossil fuel creates emissions. We do not state that there will be "no environmental impact." That is why we promote the use of 0.1% sulfur fuel within 50 miles of shore for ships of 20,000 horsepower or less. Further, we believe that the predicted impacts will be small and more importantly, the requested relief will be equivalent or better to the over-arching regional air quality sought through the ECA by avoiding modal shift to more polluting options such as rail or truck.

v. We strongly disagree with the EPA's suggestion that our fear of modal shift is unsubstantiated. The Maritime Industrial Transportation Alliance was founded based on growing industry concern that modal shift is likely. Key industry members are now organizing to voice their apprehension of modal shift to rail and truck which will bring far greater impact much closer to population centers along the East, West, and Gulf coasts. The EPA referenced a study entitled Economic Impacts of the Category 3 Rule on Great Lakes Shipping in their suggestion of limited modal shift. Our concern with the EPA's assertion is three fold:

   a. The EPA's referenced study examines the Great Lakes which is a very unique operating environment with its own infrastructure and regulations that are separate from the rest of the shipping world. The EPA has not demonstrated how the report's conclusions, even if accurate, has any bearing on short sea or coastal shipping along East, West and Gulf coasts.

b. Since that report was completed, Canada has adopted a Fleet Averaging Program for the Great Lakes which gradually introduces lower sulfur fuels to the Great Lakes fleet between 2012 and 2020. The program was designed to balance modal shift concerns while continuing to support clean air goals. We note that in the United States, a complete exemption was provided, by EPA (pursuant to an appropriations rider), to steam ships with antiquated boiler systems that are incompatible with low sulfur fuels to better cope with the transition. The irony is that these obsolete vessels are arguably the most polluting of any in operation. Thus, modal shift would not be a viable factor on the Great Lakes.

c. Their study examined voyages that contained a mix of rail and ship components. There are certain rail constraints in the Great Lakes that limit the ability of rail in that region, therefore, we do not believe that this can be compared to the wider volume of the coastal rail infrastructure which can and will directly compete with coastal ships as the operational costs for the ships rises with the expected dramatic rise in fuel prices, as the fuel sulfur content is lowered.

C. Exhaust Gas Cleaning (Scrubbers)

Annex VI of the MARPOL convention permits exhaust gas scrubbing as an option for alternative compliance to the ECA. Scrubbers, however, may be ineffective on smaller ships. Following the Sahu/Gray study, we now have a stronger understanding of the actual emissions impact of lower horsepower ships. The study indicates that if ships use ultra-low sulfur fuel (0.1% sulfur) at 40 miles offshore, it will deliver an equivalent level of protection as consuming high sulfur fuel with the use of a scrubber. Therefore, we feel that scrubbers won't be useful to short sea ships with horsepower of 20,000 or less. If lower horsepower ships meet the required low sulfur fuel levels from 200 miles offshore, and switch to an ultra-low sulfur fuel at 50 miles offshore, as we propose, ships will meet or exceed the environmental goals achieved by scrubbers. We believe this to be a more practical and environmentally sound solution.

Examining the issue deeper, Annex VI essentially offered technological relief that was not and is still not widely available to the industry as the technology is developing and its applicability to all classes of vessels, particularly smaller vessels, is not demonstrated. The shipping industry is experimenting with various scrubber manufacturers but as a whole there remain significant concerns in reliability and the capacity to retrofit these enormous systems into limited spaces on vessels that were not suited or designed for accommodating such equipment. There is also a fuel consumption penalty for using a gas scrubbing system, which, in a sense, is counterproductive to the goal of energy efficiency and reduced greenhouse gas emissions. Further, robust debate continues about ecological trade-offs regarding the heavy sludge waste that is created in the scrubbing process and how open loop systems discharge waste water back to the sea. In good faith, CSL has installed an exhaust gas scrubber prototype on one of our vessels and currently charters a vessel with gas scrubbing technology. I offer with practical certainty that the results are mixed and the technology has not matured to a level where we can commit to fleet wide-applications of scrubbers until some of these issues are addressed, which will not occur before 2015. Regardless, as the Sahu/Gray study details, the environmental benefit of exhaust gas

scrubbing technology is discouraged as it is irrelevant from pollution mitigation perspective for the smaller horse power engines of short sea ships.

Some cruise ship companies have committed to using exhaust gas scrubbers to comply with the North American ECA, but we point out key distinctions between cruise ships and typical short sea vessels:

- First, that cruise ships are far larger (and therefore far bigger emitters of air pollution) than short sea vessels of 20,000 horsepower (or less). Typical cruise ships cater to thousands of passengers and crew requiring large propulsion in addition to the emissions of significant auxiliary generators to maintain 24 hour hotel power loads. All combined, a current generation cruise ship can easily exceed 80,000 (or more) horsepower.

- Second, that modal shift, quite obviously, is simply not a competitive factor for cruise ships. There are no modal alternatives to a cruise. If a customer chooses to take a cruise, they either do so or not – they will not opt to take a train or a car.

D. Alternative Fuels

Annex VI of MARPOL also authorizes alternative fuels such as Liquefied Natural Gas (LNG) as a means to comply with the ECA. The retro-fit of such a unique fuel as LNG is not feasible for existing ships as the systems require very large and highly sophisticated fuel tanks to contain the cryogenic fuel which must remain below -260°F to remain in a liquid state. The option is far more feasible for new ships but leaves the option virtually unattainable for existing ships which have life cycles of 20-40 years. Also, and in addition, the fuel supply infrastructure in the United States, especially on the sea coasts, while making strides, certainly will not be in place in 2015 to meaningfully offer a realistic alternative fuel source in the markets that we serve. LNG as an alternative fuel has great promise as a long term potential but is far beyond the horizon in the United States.

V.
Understanding the Impacts

As a CEO, I predict that we will have to raise cargo rates by as much as 35% to manage the unprecedented fuel price premium of **$400 per metric ton**. On short coast trades (4-5 days) the price increase is approximately 20-25% and increases to 35% for longer Coast Trades (example Halifax to Baltimore) to offset the cost increase per ton of fuel. This means that, eventually, my customers will be forced to seek other transportation options that are less safe, less efficient, and more harmful to our environment than shipping or cease production and/or sales altogether as they find alternate, offshore, sourcing of finished goods.

A. Short Sea Shipping Delivers

In the past year, short sea self-unloading ships have delivered the enormous volumes of aggregate that were used in the concrete for the iconic San Francisco Bay Bridge which

opened just over one month ago. Examples of other major projects supported by CSL's short sea ships are offered below.

- The Caldecott Tunnel (California State Highway 24, (Berkeley to Walnut Creek)).
- San Francisco's Millennium Tower and the new Trans Bay Transit Center.
- In Hawaii, products delivered by CSL will significantly contribute to a new light rail guide-way with pier blocks that will be formed over the next 18 months.
- On the East Coast, over 200,000 metric tons of aggregate have been delivered to the Greater New York area in support of the reconstruction effort following Hurricane Sandy.
- Short sea shipping delivered over 250,000 metric tons of construction material for use in the restoration of a 9000 foot runway at Charleston International Airport in South Carolina.

B. Maritime Industrial Transportation Alliance (MITA)

The MITA, of which CSL is a member, is comprised of major North American businesses in the United States and Canada that rely on Short Sea Shipping. The MITA is an outspoken advocate of practical environmental regulation that sensibly considers industry impact.

The MITA and its proposal for a balanced ECA is supported by the following members.

- U.S. Gypsum / Gypsum Transportation Ltd
- Georgia Pacific
- National Stone, Sand and Gravel Association
- National Gypsum Company
- Polaris Minerals / Eagle Rock Aggregates
- Road and Highway Builders
- Atlantic Coast Materials LLC
- Canadian Manufacturers & Exporters
- Chamber of Marine Commerce
- Portland Cement Association

C. Environmental Performance Comparison

Considering an average long haul truck can carry 26 tons of cargo and a Panamax short sea vessel can carry a cargo load of 50,000 to 74,000 tons, the short sea voyage removes, at minimum, 1,923 trucks from roads, easing congestion and the emissions they produce right in people's backyards. Similarly, the same ship would remove 819 rail cars, assuming a capacity of about 61 tons per rail car.

Citing the U.S. Maritime Administration's 2011 America's Marine Highway Report to Congress:

- "Trucks, on average, can carry one ton of freight for approximately 155 miles on a gallon of diesel fuel (i.e., 155 ton-miles of freight per gallon - equivalent to 842 British Thermal Units (BTU) per ton-mile);
- Rail achieves 413 ton-miles of freight per gallon (i.e., 316 BTU per ton-mile); and
- A tug-and-barge operation can get as much as 576 ton-miles of freight to a gallon of fuel (227 BTU per ton-mile)."[4]

By comparison, our vessels achieve 1,100 ton-miles of freight per gallon of fuel which out performs all other competing modes, including tug and barge.

An International Maritime Organization *Marine Environment Protection Committee* paper cited "that examining the range of typical CO_2 efficiencies for various loaded cargo carriers; bulk ships produce an average of 2.7 grams of CO_2 per ton-mile while trains range from 10-119 grams per ton-mile. Trucks, by comparison, are the most inefficient of the transportation options ranging from 80-181 grams of CO_2 per ton-mile."[5]

D. Economic Impact

While CSL doesn't regularly serve customers there, the State of Alaska has publicly expressed frustration over the ECA as nearly all of its goods arrive via ship. Most of the dedicated shipping lines between the continental United States and Alaska transit virtually 100% through the ECA. Additionally, the cruise ship industry, which is a major contributor to the Alaskan tourism economy, will be hard hit and have also publicly promoted alternatives.

In the United Kingdom, large commercial ferry services that operate exclusively within their respective ECA, are showing concern over potential modal shift due to current and predicted fuel price increases between $275-$350 per ton in the United Kingdom.

Closer to home, the National Stone, Sand and Gravel Association, which represents an industry that produced nearly two billion metric tons of aggregate accounting for over 90% of the crushed stone and 70% of the sand consumed in the United States, has publicly raised their concern over the ECA and its impact on the transportation of narrow margin cargoes such as construction aggregates.

E. Modal Shift

Despite the well documented social, environmental, and air quality benefits of Short Sea Shipping, there is concern that consumers with a choice, will be forced to pursue less efficient modes of transportation that are more damaging to the environment.

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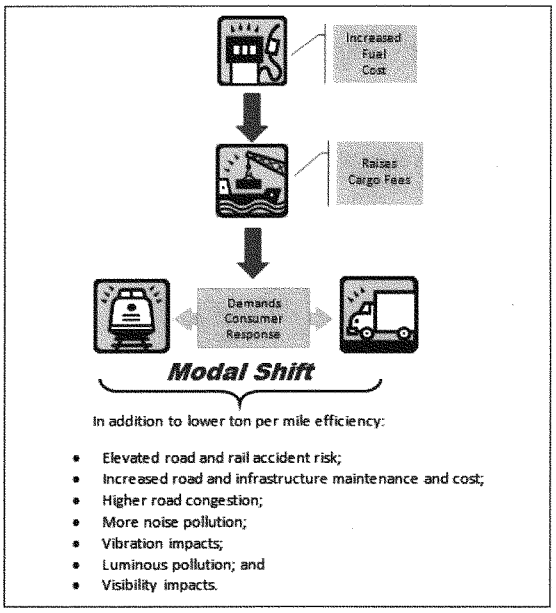
[4] America's Marine Highway Report to Congress: Maritime Administration, April 2011, Page 22
[5] MEPC Paper 59/INF.10 Annex

Again, citing the June 12, 2013 response letter, the EPA dismisses the notion of modal shift caused by the forced increase in fuel related costs to cheaper, land based and higher emitting modes. Relying on a very regionalized study of the Great Lakes, the EPA determined that there would be no threat of modal shift on the coasts. When this Sub-Committee asked specifically if the EPA studied potential East and West coast modal impacts, they simply provided a one line response claiming they don't believe a modal shift is probable based on their Great Lakes review.[6]

The unintended consequences will conflict with the Maritime Administration's 2010 Marine Highway Program, which will increase truck and rail demand leading to:

- Elevated road and rail accident risk;
- Increased road and infrastructure maintenance;
- Higher road congestion;
- More noise pollution;
- Vibration impacts;
- Luminous pollution; and
- Visibility impacts.

The impact of the added shore-side congestion will be felt in regions that already have overstressed transportation infrastructure.



[6] June 12, 2013 EPA Response; Enclosure Paragraph 2.j & K

The issue isn't front page news because it impacts a small population of shipping companies. However, the issue is real for those that rely on coastal shipping that requires extensive operation within the ECA.

In addition to modal shift is source shift. As an example: gypsum is currently mined and produced by our trade partners in Canada and Mexico and shipped to American manufacturers in California, New Hampshire, and Maryland. The increases in short-sea shipping freight rates could transfer supply of that material to Chinese or European producers supplying American homes with wallboard.

VI.
Environmental Stewardship

At CSL we are proud to responsibly serve our customers and provide environmental leadership to our industry. We look at environmental challenges as opportunities to improve our operations and earnestly believe in preserving our marine habitat as a lasting natural resource to benefit future generations as well as to sustain our mission of marine transportation.

As an industry, the maritime domain has been modest in promoting its inherent value to the environment as not one of the most efficient but *THE* most efficient bulk cargo transportation option. From a fuel efficiency perspective, our ships are:

- 7 times more efficient than truck; and
- 2.5 times more efficient than rail.

A. Corporate Environmental Initiatives

We exceed environmental regulations and break industry standards by annually measuring our environmental performance and transparently share our results publicly. We use the data gathered in our environmental metrics to develop ambitious and well intentioned projects to improve fuel efficiency, reduce operational impacts, as well as improve the health of the marine habitat and the coastal communities which we serve.

CSL has made extensive commitments to systematically improve our performance including enrollment in the Green Marine Program which delivers a challenging and critical unbiased third party report card on company and ship environmental performance in six categories including air emissions.

Moreover, CSL volunteers time, people, assets, and millions of dollars in financial resources to explore emerging technology for marine applications including energy efficiency projects, alternative fuels, bio-diversity, and specific to this topic, exhaust gas scrubbing technology.

Committed to the environment, CSL is recapitalizing its fleet with seven new state-of-the-art energy efficient *Trillium* class ships. Our first *Trillium* ship (delivered in mid-June 2012) earned the International Bulk Journal's 2012 *Bulk ship of the Year Award* in a world-wide competition which judges ships' safety, efficiency, and environmental features. Our ships

operating on the West Coast consistently earn the Port of Los Angeles/Long Beach Green Flag award for voluntary fuel efficiency measures which contribute to improvements in regional air quality. We are also committed partners with the World Wildlife Fund.

VII.
Balanced Proposal

CSL leads our industry in environmental stewardship, which is why we support the ECA. We simply disagree, based on scientific evidence, that smaller, cleaner, ships such as ours, should be lumped together and painted with the same broad brush as ships with propulsion plants that are 2-5 times larger.

To best achieve the goals of the ECA, while recognizing the industrial impacts, we continue to propose that Congress and the EPA, in consultation with the U.S. Coast Guard and MarAd, to revisit the ECA boundary and:

- Maintain the 200 (nautical) mile North American ECA for all ships using 1% sulfur fuels; however;

- **Reduce** the 200 (nautical) mile ECA to **50** miles for **0.1%** sulfur fuels (in **2015**) for lower emitting ships of 20,000 horsepower and below.

This revision will move away from the current "one size fits all" regulation and align with a scientifically based approach which achieves the same environmental protection goals.

CSL stands proudly with the EPA, Coast Guard, and the International Maritime Organization as advocates of the ECA as a valuable regulatory tool to help improve air quality. Clean air is the responsibility of all users of fossil fuels, and the shipping industry is no different. We support the ECA, but vigorously challenge the 200 mile boundary.

As a practical approach, MITA continues to avail itself to dialogue with the EPA to explore other impact based alternatives.

We urge the Coast Guard and the EPA to work together in finding a regulatory or equivalent grounded solution which doesn't punish smaller, cleaner ships and the customers that they serve.

Exhibit A

RANAJIT (RON) SAHU, Ph.D, QEP, CEM (Nevada)

CONSULTANT, ENVIRONMENTAL AND ENERGY ISSUES

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EXPERIENCE SUMMARY

Dr. Sahu has over twenty one years of experience in the fields of environmental, mechanical, and chemical engineering including: program and project management services; design and specification of pollution control equipment; soils and groundwater remediation; combustion engineering evaluations; energy studies; multimedia environmental regulatory compliance (involving statutes and regulations such as the Federal CAA and its Amendments, Clean Water Act, TSCA, RCRA, CERCLA, SARA, OSHA, NEPA as well as various related state statutes); transportation air quality impact analysis; multimedia compliance audits; multimedia permitting (including air quality NSR/PSD permitting, Title V permitting, NPDES permitting for industrial and storm water discharges, RCRA permitting, etc.), multimedia/multi-pathway human health risk assessments for toxics; air dispersion modeling; and regulatory strategy development and support including negotiation of consent agreements and orders.

He has over nineteen years of project management experience and has successfully managed and executed numerous projects in this time period. This includes basic and applied research projects, design projects, regulatory compliance projects, permitting projects, energy studies, risk assessment projects, and projects involving the communication of environmental data and information to the public. Notably, he has successfully managed a complex soils and groundwater remediation project with a value of over $140 million involving soils characterization, development and implementation of the remediation strategy, regulatory and public interactions and other challenges.

He has provided consulting services to numerous private sector, public sector and public interest group clients. His major clients over the past twenty one years include various steel mills, petroleum refineries, cement companies, aerospace companies, power generation facilities, lawn and garden equipment manufacturers, spa manufacturers, chemical distribution facilities, and various entities in the public sector including EPA, the US Dept. of Justice, California DTSC, various municipalities, etc.). Dr. Sahu has performed projects in over 44 states, numerous local jurisdictions and internationally.

Dr. Sahu's experience includes various projects in relation to industrial waste water as well as storm water pollution compliance include obtaining appropriate permits (such as point source NPDES permits) as well development of plans, assessment of remediation technologies, development of monitoring reports, and regulatory interactions.

In addition to consulting, Dr. Sahu has taught numerous courses in several Southern California universities including UCLA (air pollution), UC Riverside (air pollution, process hazard analysis), and Loyola Marymount University (air pollution, risk assessment, hazardous waste management) for the past seventeen years. In this time period he has also taught at Caltech, his alma mater (various engineering courses), at the University of Southern California (air pollution controls) and at California State University, Fullerton (transportation and air quality).

Dr. Sahu has and continues to provide expert witness services in a number of environmental areas discussed above in both state and Federal courts as well as before administrative bodies.

EXPERIENCE RECORD

2000-present **Independent Consultant.** Providing a variety of private sector (industrial companies, land development companies, law firms, etc.) public sector (such as the US Department of Justice) and public interest group clients with project management, air quality consulting, waste remediation and management consulting, as well as regulatory and engineering support consulting services.

1995-2000 Parsons ES, **Associate, Senior Project Manager and Department Manager for** Air Quality/Geosciences/Hazardous Waste Groups, Pasadena. Responsible for the management of a group of approximately 24 air quality and environmental professionals, 15 geoscience, and 10 hazardous waste professionals providing full-service consulting, project management, regulatory compliance and A/E design assistance in all areas.

Parsons ES, **Manager for Air Source Testing Services**. Responsible for the management of 8 individuals in the area of air source testing and air regulatory permitting projects located in Bakersfield, California.

1992-1995 Engineering-Science, Inc. **Principal Engineer and Senior Project Manager** in the air quality department. Responsibilities included multimedia regulatory compliance and permitting (including hazardous and nuclear materials), air pollution engineering (emissions from stationary and mobile sources, control of criteria and air toxics, dispersion modeling, risk assessment, visibility analysis, odor analysis), supervisory functions and project management.

1990-1992 Engineering-Science, Inc. **Principal Engineer and Project Manager** in the air quality department. Responsibilities included permitting, tracking regulatory issues, technical analysis, and supervisory functions on numerous air, water, and hazardous waste projects. Responsibilities also include client and agency interfacing, project cost and schedule control, and reporting to internal and external upper management regarding project status.

1989-1990 Kinetics Technology International, Corp. **Development Engineer.** Involved in thermal engineering R&D and project work related to low-NOx ceramic radiant burners, fired heater NOx reduction, SCR design, and fired heater retrofitting.

1988-1989 Heat Transfer Research, Inc. **Research Engineer**. Involved in the design of fired heaters, heat exchangers, air coolers, and other non-fired equipment. Also did research in the area of heat exchanger tube vibrations.

EDUCATION

1984-1988 Ph.D., Mechanical Engineering, California Institute of Technology (Caltech), Pasadena, CA.

1984 M. S., Mechanical Engineering, Caltech, Pasadena, CA.

1978-1983 B. Tech (Honors), Mechanical Engineering, Indian Institute of Technology (IIT) Kharagpur, India

TEACHING EXPERIENCE

Caltech

"Thermodynamics," Teaching Assistant, California Institute of Technology, 1983, 1987.

"Air Pollution Control," Teaching Assistant, California Institute of Technology, 1985.

"Caltech Secondary and High School Saturday Program," - taught various mathematics (algebra through calculus) and science (physics and chemistry) courses to high school students, 1983-1989.

"Heat Transfer," - taught this course in the Fall and Winter terms of 1994-1995 in the Division of Engineering and Applied Science.

"Thermodynamics and Heat Transfer," Fall and Winter Terms of 1996-1997.

U.C. Riverside, Extension

"Toxic and Hazardous Air Contaminants," University of California Extension Program, Riverside, California. Various years since 1992.

"Prevention and Management of Accidental Air Emissions," University of California Extension Program, Riverside, California. Various years since 1992.

"Air Pollution Control Systems and Strategies," University of California Extension Program, Riverside, California, Summer 1992-93, Summer 1993-1994.

"Air Pollution Calculations," University of California Extension Program, Riverside, California, Fall 1993-94, Winter 1993-94, Fall 1994-95.

"Process Safety Management," University of California Extension Program, Riverside, California. Various years since 1992-2010.

"Process Safety Management," University of California Extension Program, Riverside, California, at SCAQMD, Spring 1993-94.

"Advanced Hazard Analysis - A Special Course for LEPCs," University of California Extension Program, Riverside, California, taught at San Diego, California, Spring 1993-1994.

"Advanced Hazardous Waste Management" University of California Extension Program, Riverside, California. 2005.

Loyola Marymount University

"Fundamentals of Air Pollution - Regulations, Controls and Engineering," Loyola Marymount University, Dept. of Civil Engineering. Various years since 1993.

"Air Pollution Control," Loyola Marymount University, Dept. of Civil Engineering, Fall 1994.

"Environmental Risk Assessment," Loyola Marymount University, Dept. of Civil Engineering. Various years since 1998.

"Hazardous Waste Remediation" Loyola Marymount University, Dept. of Civil Engineering. Various years since 2006.

University of Southern California

"Air Pollution Controls," University of Southern California, Dept. of Civil Engineering, Fall 1993, Fall 1994.

"Air Pollution Fundamentals," University of Southern California, Dept. of Civil Engineering, Winter 1994.

University of California, Los Angeles

"Air Pollution Fundamentals," University of California, Los Angeles, Dept. of Civil and Environmental Engineering, Spring 1994, Spring 1999, Spring 2000, Spring 2003, Spring 2006, Spring 2007, Spring 2008, Spring 2009.

International Programs

"Environmental Planning and Management," 5 week program for visiting Chinese delegation, 1994.

"Environmental Planning and Management," 1 day program for visiting Russian delegation, 1995.

"Air Pollution Planning and Management," IEP, UCR, Spring 1996.

"Environmental Issues and Air Pollution," IEP, UCR, October 1996.

PROFESSIONAL AFFILIATIONS AND HONORS

President of India Gold Medal, IIT Kharagpur, India, 1983.

Member of the Alternatives Assessment Committee of the Grand Canyon Visibility Transport Commission, established by the Clean Air Act Amendments of 1990, 1992-present.

American Society of Mechanical Engineers: Los Angeles Section Executive Committee, Heat Transfer Division, and Fuels and Combustion Technology Division, 1987-present.

Air and Waste Management Association, West Coast Section, 1989-present.

PROFESSIONAL CERTIFICATIONS

EIT, California (# XE088305), 1993.

REA I, California (#07438), 2000.

Certified Permitting Professional, South Coast AQMD (#C8320), since 1993.

QEP, Institute of Professional Environmental Practice, since 2000.

CEM, State of Nevada (#EM-1699). Expiration 10/07/2011.

PUBLICATIONS (PARTIAL LIST)

"Physical Properties and Oxidation Rates of Chars from Bituminous Coals," with Y.A. Levendis, R.C. Flagan and G.R. Gavalas, *Fuel*, **67**, 275-283 (1988).

"Char Combustion: Measurement and Analysis of Particle Temperature Histories," with R.C. Flagan, G.R. Gavalas and P.S. Northrop, *Comb. Sci. Tech.* **60**, 215-230 (1988).

"On the Combustion of Bituminous Coal Chars," PhD Thesis, California Institute of Technology (1988).

"Optical Pyrometry: A Powerful Tool for Coal Combustion Diagnostics," *J. Coal Quality*, **8**, 17-22 (1989).

"Post-Ignition Transients in the Combustion of Single Char Particles," with Y.A. Levendis, R.C.Flagan and G.R. Gavalas, *Fuel*, **68**, 849-855 (1989).

"A Model for Single Particle Combustion of Bituminous Coal Char." Proc. ASME National Heat Transfer Conference, Philadelphia, **HTD-Vol. 106**, 505-513 (1989).

"Discrete Simulation of Cenospheric Coal-Char Combustion," with R.C. Flagan and G.R.Gavalas, *Combust. Flame*, **77**, 337-346 (1989).

"Particle Measurements in Coal Combustion," with R.C. Flagan, in "**Combustion Measurements**" (ed. N. Chigier), Hemisphere Publishing Corp. (1991).

"Cross Linking in Pore Structures and Its Effect on Reactivity," with G.R. Gavalas in preparation.

"Natural Frequencies and Mode Shapes of Straight Tubes," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Optimal Tube Layouts for Kamui SL-Series Exchangers," with K. Ishihara, Proprietary Report for Kamui Company Limited, Tokyo, Japan (1990).

"HTRI Process Heater Conceptual Design," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Asymptotic Theory of Transonic Wind Tunnel Wall Interference," with N.D. Malmuth and others, Arnold Engineering Development Center, Air Force Systems Command, USAF (1990).

"Gas Radiation in a Fired Heater Convection Section," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1990).

"Heat Transfer and Pressure Drop in NTIW Heat Exchangers," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1991).

"NOx Control and Thermal Design," Thermal Engineering Tech Briefs, (1994).

"From Purchase of Landmark Environmental Insurance to Remediation: Case Study in Henderson, Nevada," with Robin E. Bain and Jill Quillin, presented at the AQMA Annual Meeting, Florida, 2001.

"The Jones Act Contribution to Global Warming, Acid Rain and Toxic Air Contaminants," with Charles W. Botsford, presented at the AQMA Annual Meeting, Florida, 2001.

PRESENTATIONS (PARTIAL LIST)

"Pore Structure and Combustion Kinetics - Interpretation of Single Particle Temperature-Time Histories," with P.S. Northrop, R.C. Flagan and G.R. Gavalas, presented at the AIChE Annual Meeting, New York (1987).

"Measurement of Temperature-Time Histories of Burning Single Coal Char Particles," with R.C. Flagan, presented at the American Flame Research Committee Fall International Symposium, Pittsburgh, (1988).

"Physical Characterization of a Cenospheric Coal Char Burned at High Temperatures," with R.C. Flagan and G.R. Gavalas, presented at the Fall Meeting of the Western States Section of the Combustion Institute, Laguna Beach, California (1988).

"Control of Nitrogen Oxide Emissions in Gas Fired Heaters - The Retrofit Experience," with G. P. Croce and R. Patel, presented at the International Conference on Environmental Control of Combustion Processes (Jointly sponsored by the American Flame Research Committee and the Japan Flame Research Committee), Honolulu, Hawaii (1991).

"Air Toxics - Past, Present and the Future," presented at the Joint AIChE/AAEE Breakfast Meeting at the AIChE 1991 Annual Meeting, Los Angeles, California, November 17-22 (1991).

"Air Toxics Emissions and Risk Impacts from Automobiles Using Reformulated Gasolines," presented at the Third Annual Current Issues in Air Toxics Conference, Sacramento, California, November 9-10 (1992).

"Air Toxics from Mobile Sources," presented at the Environmental Health Sciences (ESE) Seminar Series, UCLA, Los Angeles, California, November 12, (1992).

"Kilns, Ovens, and Dryers - Present and Future," presented at the Gas Company Air Quality Permit Assistance Seminar, Industry Hills Sheraton, California, November 20, (1992).

"The Design and Implementation of Vehicle Scrapping Programs," presented at the 86th Annual Meeting of the Air and Waste Management Association, Denver, Colorado, June 12, 1993.

"Air Quality Planning and Control in Beijing, China," presented at the 87th Annual Meeting of the Air and Waste Management Association, Cincinnati, Ohio, June 19-24, 1994.

Exhibit B

H. ANDREW GRAY

EDUCATION

Ph.D. environmental engineering science, California Institute of Technology, Pasadena, California, 1986

M.S. environmental engineering science, California Institute of Technology, Pasadena, California, 1980

B.S. civil engineering/engineering and public policy, Carnegie-Mellon University, Pittsburgh, Pennsylvania, 1979

EXPERIENCE

Dr. H. Andrew Gray has been performing research in air pollution for over 30 years, within academic, governmental, and consulting environments. He has made significant contributions in the areas of airborne particles and visibility, including the development and application of computer-based air quality models. His areas of expertise are air pollution control strategy design and evaluation, computer modeling of the atmosphere, characterization of ambient air quality and air pollutant source emissions, aerosol monitoring and modeling, visibility analysis, receptor modeling, statistical data analysis, mathematical programming, numerical methods, and analysis of environmental public policy. Dr. Gray is currently an independent contractor focusing on particulate matter and visibility related research issues. Previous Gray Sky Solutions projects include assessment of Clean Air Act and other regulations on visibility in Class I (park and wilderness) areas, development of air pollution control plans and emission inventories for tribal lands, review and development of guidelines for modeling long-range transport impacts using the CALPUFF model, evaluation of particulate air quality impacts associated with diesel exhaust emissions, air quality management plan modeling protocol review, a critical review of Clean Air Mercury Rule (CAMR) documents, and assessment of the regional air quality impacts of power plant emissions. Most recently, Dr. Gray has been carrying out dispersion modeling studies to determine the impacts associated with mercury emissions in the Chesapeake Bay region.

Before starting Gray Sky Solutions, Dr. Gray was the manager of the PM_{10} and Visibility Program at Systems Applications International (SAI / ICF Inc.). At SAI, Dr. Gray conducted and managed a number of varied air pollution research projects. In the early 1990s, Dr. Gray directed a large (over $1 million) air-quality modeling program to determine the impact of SO_2 emissions from a large coal-fired power plant on Grand Canyon sulfate and visibility levels. He managed projects to develop carbon particle emission data for the Denver area, designed a PM_{10} monitoring and modeling program for the El Paso area, determined the appropriate tradeoffs between direct PM_{10} emissions and emissions of PM_{10} precursors, estimated the visibility effects in federal Class I areas due to the 1990 Clean Air Act Amendments (results of which were incorporated into EPA's 1993 Report to Congress on the expected visibility consequences of the 1990 Clean Air Act Amendments), and provided assistance to EPA Region VIII's tribal air programs. Other projects include emission inventory development for Sacramento and carbon monoxide modeling of Phoenix, Arizona to support federal and regional implementation plans in those regions, systematic evaluation of the Interagency Workgroup on Air Quality Modeling (IWAQM) recommendations for the use of MESOPUFF II, a critical assessment of exposures to particulate diesel exhaust in California, and an evaluation of $PM_{2.5}$ and PM_{10} air quality data in support of EPA's review of the federal particulate matter air quality standards. Later projects included a study of micrometeorology and modeling of low wind speed stable conditions in the San Joaquin Valley (CA), an assessment of the reductions in nationwide ambient particulate nitrate exposures due to mobile source NO_x emission reductions, an evaluation of visibility conditions in the Southern Appalachian Mountains region, a review of cotton ginning emission factors, and a critical review and assessment of the PM_{10} Attainment Demonstration Plan for the San Joaquin Valley. Dr. Gray was a member of the modeling subcommittee of the technical committee of the Grand Canyon Visibility Transport Commission.

Previous to his tenure at SAI, Dr. Gray was responsible for the PM_{10} and visibility programs at the South Coast Air Quality Management District which involved directing monitoring, analysis, and modeling efforts to

support the design of air pollution control strategies for the South Coast Air Basin of California. He developed and applied the methodologies for assessing PM_{10} concentrations that have continued to be used by the District through numerous subsequent air quality management plan revisions. Dr. Gray authored portions of the 1989 Air Quality Management Plan issued by the District that describe the results of modeling and data analyses used to evaluate particulate matter control strategies. Dr. Gray was instrumental in promoting the development and application of state-of-science models for predicting particulate matter concentrations. His responsibilities included direction and oversight of numerous aerosol-related contracts, including development of the SEQUILIB and SAFER models, construction of an ammonia emission database, and development of sulfate, nitrate and organic chemical mechanisms. In addition, Dr. Gray was responsible for initiating the District's visibility control program.

In research performed at the California Institute of Technology, Dr. Gray studied control of atmospheric fine primary carbon particle concentrations and performed computer programming tasks for acquisition and analysis of real-time experimental data. He designed, constructed, and operated the first long-term fine particle monitoring network in Southern California in the early 1980s. He also developed and applied deterministic models to predict source contributions to fine primary carbon particle concentrations and constructed objective optimization procedures for control strategy design. In research carried out for the Department of Mechanical Engineering at Carnegie-Mellon University, Dr. Gray developed fuel use data for input to an emission simulation model for the northeastern United States.

SPECIALIZED PROFESSIONAL COMPETENCE

- Air pollution control strategy design
- Atmospheric air quality characterization
- Aerosols and visibility
- Computer modeling and data analysis
- Dispersion modeling for particulate matter and visibility
- Receptor modeling including Chemical Mass Balance (CMB) and factor analysis
- Analysis of environmental public policy

PROFESSIONAL EXPERIENCE

- Systems Applications International (SAI)—PM_{10} and visibility program manager— participated in and managed numerous air quality modeling and analysis projects for public and private sector clients, with emphasis on particulate matter and visibility research
- South Coast Air Quality Management District, El Monte, California—air quality specialist—developed and applied air quality modeling analyses to support air pollution control strategy design for the South Coast Air Basin of California
- California Institute of Technology, Pasadena, California—research assistant—Ph.D. candidate in environmental engineering science. Thesis: Control of atmospheric fine primary carbon particle concentrations (thesis advisors: Dr. Glen Cass, Dr. John Seinfeld, and Dr. Richard Flagan)
- California Institute of Technology, Pasadena, California—laboratory assistant—performed computer programming tasks for acquisition and analysis of real-time experimental data
- Department of Mechanical Engineering, Carnegie-Mellon University, Pittsburgh, Pennsylvania—research assistant—developed fuel use data for an emissions simulation model for the northeastern United States. Grant from the U.S. Department of Energy for evaluation of national energy policy
- Department of Civil Engineering, Carnegie-Mellon University, Pittsburgh, Pennsylvania—consultant—analyzed structural retrofit design for Ferrari Dino import automobile for United States five mph crash test

HONORS AND AWARDS

Harold Allen Thomas Scholarship Award, Carnegie-Mellon University

University Honors, Carnegie-Mellon University

PROFESSIONAL AFFILIATIONS

Air and Waste Management Association

American Association for Aerosol Research

SELECTED PUBLICATIONS AND PRESENTATIONS

The Deposition of Airborne Mercury within the Chesapeake Bay Region from Coal-fired Power Plant Emission in Pennsylvania, in press (2010)

Source Contributions to Atmospheric Fine Carbon Particle Concentrations (with G.R. Cass), *Atmospheric Environment*, 32:3805-3825 (1998)

"Monitoring and Analysis of the Surface Layer at Low Wind Speeds in Stable PBL's in the Southern San Joaquin Valley of California" (with others), presented at the American Meteorological Society's 12th Symposium on Boundary Layers and Turbulence, Vancouver, British Columbia (July 1997)

"Estimation of Current and Future Year NOx to Nitrate Conversion for Various Regions of the United States" (with A. Kuklin), presented at the 90th Meeting of the Air and Waste Management Association, Toronto, Ontario (June 1997)

Integrated Monitoring Study (IMS) 1995: Characterization of Micrometeorological Phenomena: Mixing and Diffusion in Low Wind Speed Stable Conditions: Study Design and Preliminary Results (with others), in *Measurement of Toxic and Related Air Pollutants*, Air and Waste Management Association, Pittsburgh, Pennsylvania, pp. 484-500 (1996)

Regional Emissions and Atmospheric Concentrations of Diesel Engine Particulate Matter: Los Angeles as a Case Study (with G.R. Cass), in *Diesel Exhaust: A Critical Analysis of Emissions, Exposure, and Health Effects*, Health Effects Institute, Cambridge, Massachusetts, pp. 125-137 (1995)

"Assessment of the Effects of the 1990 Clean Air Act Amendments on Visibility in Class I Areas", presented at the 86th Annual Meeting & Exhibition of the Air and Waste Management Association, Denver, Colorado (June 1993)

"Source Contributions to Atmospheric Carbon Particle Concentrations" (with others), presented at the Southern California Air Quality Study Data Analysis Conference, Los Angeles, California (July 1992)

"Modeling Wintertime Sulfate Production in the Southwestern United States" (with M. Ligocki), presented at the AWMA/EPA International Specialty Conference on PM10 Standards and Nontraditional Particulate Source Controls, Scottsdale, Arizona (January 1992)

"Deterministic Modeling for the Navajo Generating Station Visibility Impairment Study: An Overview," presented at the 84th Meeting of the Air and Waste Management Association, Vancouver, British Columbia (June 1991)

"Receptor and Dispersion Modeling of Aluminum Smelter Contributions to Elevated PM10 Concentrations" (with R. G. Ireson and A. B. Hudischewskyj), presented at the 84th Meeting of the Air and Waste Management Association, Vancouver, British Columbia (June 1991)

Visibility and PM-10 in the South Coast Air Basin of California (with J.C. Marlia), in *Visibility and Fine Particles*, Air and Waste Management Association, Pittsburgh, Pennsylvania, pp. 468-477 (1990)

Chemical characteristics of PM10 aerosols collected in the Los Angeles area (with others), *J. Air Pollut. Control Assoc.*, 39:154-163 (1989)

Atmospheric carbon particles and the Los Angeles visibility problem (with others), *Aerosol Sci. Technol.*, 10:118-130 (1989)

Receptor modeling for PM10 source apportionment in the South Coast Air Basin of California (with others), in *PM-10: Implementation of Standards*, Air Pollution Control Association, Pittsburgh, Pennsylvania, pp. 399-418 (1988)

Optimization of PM10 control strategy in the South Coast Air Basin (with others), in *PM-10: Implementation of Standards*, Air Pollution Control Association, Pittsburgh, Pennsylvania, pp. 589-600 (1988)

Quantitative high-resolution gas chromatography and high-resolution gas chromatography/mass spectrometry analyses of carbonaceous fine aerosol particles (with others), *Int. J. Environ. Anal. Chem.*, 29:119-139 (1987)

"Development of an Objective Ozone Forecast Model for the South Coast Air Basin" (with others), presented at the 80th Meeting of the Air Pollution Control Association, New York (June 1987)

"PM10 Modeling in the South Coast Air Basin of California" (with others), presented at the 79th Annual Meeting of the Air Pollution Control Association, Minneapolis, Minnesota (1986)

Characteristics of atmospheric organic and elemental carbon particle concentrations in Los Angeles (with others), *Environ. Sci. Technol.*, 20:580-589 (1986)

"Chemical Speciation of Extractable Organic Matter in the Fine Aerosol Fraction" (with others), presented at the 1984 International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii (1984)

"Source Contributions to Atmospheric Carbon Particle Concentrations" (with others), presented at the First International Aerosol Conference, Minneapolis, Minnesota (1984)

Elemental and organic carbon particle concentrations: A long term perspective (with others), *Sci. Total Environ.*, 36:17-25 (1984)

"Meteorological and Chemical Potential for Oxidant Formation" (with others), presented at the Conference on Air Quality Trends in the South Coast Air Basin, California Institute of Technology, Pasadena, California (1980)

Containing recombinant DNA: How to reduce the risk of escape (with others), *Nature*, 281:421-423 (1979)

OTHER PUBLICATIONS

"Cypress Creek Power Plant Modeling: Pollutant Deposition to the Chesapeake Bay and Sensitive Watersheds within the Commonwealth of Virginia," prepared on behalf of the Chesapeake Bay Foundation, Annapolis, MD (2009)

"Virginia City Power Plant Modeling," prepared on behalf of the Chesapeake Bay Foundation, Annapolis, MD (2008)

"Chesterfield Power Plant Modeling," prepared on behalf of the Chesapeake Bay Foundation, Annapolis, MD (2008)

"The Deposition of Airborne Mercury in Pennsylvania," prepared on behalf of the Chesapeake Bay Foundation, Annapolis, MD (2007)

"The Deposition of Airborne Mercury in Virginia," prepared on behalf of the Chesapeake Bay Foundation, Annapolis, MD (2007)

"Pollutant Deposition from Maryland Sources," prepared on behalf of the Chesapeake Bay Foundation, Annapolis, MD (2006)

"Air Quality Modeling and Visibility Impacts Associated with Sammis Power Plant Emissions," prepared on behalf of the United States of America, Washington, D.C. (2003)

"Air Quality Modeling and Visibility Impacts Associated with Baldwin Power Plant Emissions," prepared on behalf of the United States of America, Washington, D.C. (2002)

"Assessment of the Impacts of Clean Air Act and Other Provisions on Visibility in Class I Areas" (with others), prepared for American Petroleum Institute, Washington, D.C. (1998)

"California Regional PM10 Air Quality Study: *1995 Integrated Monitoring Study Data Analysis: Time and Length Scales for Mixing Secondary Aerosols During Stagnation Periods"* (with others), prepared for California Air Resources Board, Sacramento (1997)

"San Joaquin Valley Regional PM10 Study*: Characterizing Micrometeorological Phenomena: Mixing and Diffusion in Low Wind Speed Conditions Phase III: Monitoring and Data Analysis"* (with others), prepared for California Air Resources Board, Sacramento (1997)

"Cotton Gin Particulate Emission Factors," prepared for U.S. Environmental Protection Agency, Region VIII, San Francisco, California (1997)

"Benefits of Mobile Source NOx Related Particulate Matter Reductions" (with A. Kuklin), SYSAPP-96/61, prepared for Office of Mobile Sources, U.S. Environmental Protection Agency, Ann Arbor, Michigan (1996)

"Evaluation of Existing Information on the Effects of Air Pollutants on Visibility in the Southern Appalachians" (with D. Kleinhesselink), SYSAPP-96-95/060, prepared for Southern Appalachian Mountains Initiative, Asheville, North Carolina (1996)

"Statistical Support for the Particulate Matter NAAQS" (with others), SYSAPP-96-95/039, prepared for Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina (1996)

"San Joaquin Valley Regional PM10 Study Support Study 5A: *Characterizing Micrometeorological Phenomena: Mixing and Diffusion in Low Wind Speed Conditions Phase II: Detailed Recommendations for Experimental Plans*" (with others), prepared for California Air Resources Board, Sacramento (1995)

"San Joaquin Valley Regional PM10 Study Support Study 5A: *Characterizing Micrometeorological Phenomena: Mixing and Diffusion in Low Wind Speed Conditions Phase I: Literature Review and Draft Program Recommendations*" (with others), prepared for California Air Resources Board, Sacramento (1995)

"Class I Grouping for Subsequent Assessment of Regional Haze Rules" (with others), SYSAPP-94/129, prepared for Air Quality Strategies and Standards Division, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina (1994)

"Retrospective Analysis of the Impact of the Clean Air Act on Urban Visibility in the Southwestern United States" (with C. Emery and T.E. Stoeckenius), SYSAPP-94/108, prepared for Office of Policy Analysis and Review, Office of Air and Radiation, U.S. Environmental Protection Agency, Washington, D.C. (1994)

"Evaluation of Ambient Species Profiles, Ambient Versus Modeled NMHC:NO_x and CO:NO_x Ratios, and Source-Receptor Analyses" (with G. Yarwood, M. Ligocki, and G. Whitten), SYSAPP-94/081, prepared for Office of Mobile Sources, U.S. Environmental Protection Agency, Ann Arbor, Michigan (1994)

"Diesel Particulate Matter in California: Exposure Assessment" (with M. Ligocki and A. Rosenbaum), SYSAPP-94/077, prepared for Engine Manufacturers Association, Chicago, Illinois (1994)

"Interagency Workgroup on Air Quality Modeling (IWAQM): Assessment of Phase I Recommendations Regarding the Use of MESOPUFF II" (with M. Ligocki and C. Emery), SYSAPP-94/030, prepared for Source Receptor and Analysis Branch, Technical Services Division, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina (1994)

"Analysis of the 1991-1992 Pine Bend Monitoring Data" (with others), SYSAPP-94/007, prepared for Minnesota Pollution Control Agency, St. Paul, Minnesota (1994)

"Assessment of the Effects of the 1990 Clean Air Act Amendments on Visibility in Class I Areas" (with others), SYSAPP-93/162, prepared for Ambient Standards Branch, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina (1994)

"Revised Base Case and Demonstration of Attainment for Carbon Monoxide for Maricopa County, Arizona" (with others), SYSAPP-94-93/156s, prepared for Maricopa Association of Governments, Phoenix, Arizona (1994)

"Sacramento FIP 2005 Modeling Inventory" (with others), SYSAPP-93/237, prepared for Pacific Environmental Services, North Carolina, and U.S. Environmental Protection Agency, Region IX, San Francisco, California (1993)

"Carbon Monoxide Modeling in Support of the 1993 State Implementation Plan for Maricopa County, Arizona" (with others), SYSAPP-93/156, prepared for Maricopa Association of Governments, Phoenix, Arizona (1993)

"Air Quality Modeling of Carbon Monoxide Concentrations in Support of the Federal Implementation Plan for Phoenix, Arizona" (with others), SYSAPP-93/039, prepared for Pacific Environmental Services, North Carolina, and U.S. Environmental Protection Agency, Region IX, San Francisco, California (1993)

"Base Case Carbon Monoxide Emission Inventory Development for Maricopa County, Arizona" (with others), SYSAPP-93/077, prepared for Maricopa Association of Governments, Phoenix, Arizona (1993)

"Sacramento FIP Modeling 3: Future Emissions Inventory" (with others), SYSAPP-93/036, prepared for Pacific Environmental Services, Inc., North Carolina and U.S. Environmental Protection Agency, San Francisco (1993)

"Emissions Inventory Development for the Tribal Air Program" (with M. Causley and S. Reid), SYSAPP-92/146, prepared for U.S. Environmental Protection Agency, Region VIII, Denver, Colorado (1992)

"Carbon Particle Emissions Inventory for Denver Brown Cloud II: Development and Assessment" (with S. B. Reid and L. R. Chinkin), prepared for Colorado Department of Health, Denver, Colorado (1992)

"Analysis to Determine the Appropriate Trade-off Ratios Between NO_x, SO_x, and PM10 Emissions for the Shell Martinez Refinery" (with M. Ligocki), SYSAPP-92/006, prepared for Shell Oil Co., Martinez, California (1992)

"Modeling Program for PM-10 State Implementation Plan Development for the El Paso/Ciudad Juarez Airshed" (with C. Emery and M. Ligocki), SYSAPP-91/134, prepared for U.S. Environmental Protection Agency, Dallas Texas (1991)

"Deterministic Modeling for Navajo Generating Station Visibility Study. Volume I. Technical Report" (with others), SYSAPP-91/045a, prepared for Salt River Project, Phoenix, Arizona (1991)

"Deterministic Modeling in the Navajo Generating Station Visibility Study" (with others), SYSAPP-91/004, prepared for Salt River Project, Phoenix, Arizona (1991"Analysis of Contributions to PM10 Concentrations During Episodic Conditions" (with A. B. Hudischewskyj and R. G. Ireson), SYSAPP-90/072, prepared for Kaiser Aluminum and Chemical Corporation (1990)

"Preparation of Elemental and Organic Carbon Particle Emission Inventories for the Denver Area: Work Plan" (with L. R. Chinkin), SYSAPP-90/068, prepared for Colorado Department of Health (1990)

"Evaluation of Control Strategies for PM10 Concentrations in the South Coast Air Basin," Air Quality Management Plan: 1988 Revision, Appendix V-O. South Coast Air Quality Management District, El Monte, California (1988)

"Annual PM10 Dispersion Model Development and Application in the South Coast Air Basin," Air Quality Management Plan: 1988 Revision, Appendix V-L. South Coast Air Quality Management District, El Monte, California (1988)

"PM10 Modeling Approach" (with others), 1987 AQMP Revision Working Paper No. 2, South Coast Air Quality Management District, El Monte, California (1986)

"Work plan for Air Quality Modeling and Analysis," 1987 AQMP Revision Working Paper No. 5, Planning Division, South Coast Air Quality Management District, El Monte, California (1986)

"Control of Atmospheric Fine Primary Carbon Particle Concentrations," (EQL report No. 23), Ph.D. thesis, California Institute of Technology, Pasadena, California (1986)

"Policy on Recombinant DNA Activities: Relaxing Guidelines While Increasing Safety," project report, Department of Engineering and Public Policy, Carnegie-Mellon University, Pittsburgh, Pennsylvania (1978)

"Air Pollution Control Analyses for State Implementation Plan Revisions in Allegheny County," project report, Department of Engineering and Public Policy, Carnegie-Mellon University, Pittsburgh, Pennsylvania (1978)

EMPLOYMENT HISTORY

Systems Applications International	Manager, PM_{10} and Visibility Program	1989–1997
South Coast Air Quality Management District	Air Quality Specialist	1985–1989
California Institute of Technology, Pasadena, California	Research Assistant Laboratory Assistant	1979–1985 1979
Carnegie-Mellon University, Dept. of Mechanical Engineering Pittsburgh, Pennsylvania	Research Assistant	1978–1979

Testimony of William Terry
President and Chief Executive Officer of Eagle Rock Aggregates Incorporated

before the

Subcommittee on Coast Guard and Marine Transportation
House of Representatives Committee on Transportation and Infrastructure

regarding the

Economic Impacts of the North American Emission Control Area

March 4, 2014

I.
Introduction

Good morning Chairman Hunter and Representative Garamendi, I appreciate and welcome the opportunity to testify before you and the rest of the distinguished Subcommittee members. I am William Terry, President and Chief Executive Officer of Eagle Rock Aggregates Incorporated, a company headquartered in Richmond, California serving the construction aggregate needs of the San Francisco Bay area and Hawaii. Eagle Rock is a subsidiary of Polaris Minerals Corporation, located in Vancouver, Canada that develops and operates quarries on Vancouver Island. I have nearly 40 years of experience in the public and private sectors following my service as a U.S. Army officer. I have previously been the Deputy Director of Street and Sanitation for Dallas and the Waste Management Inc. Vice President for Landfills. I have also served on the national boards of the American Public Works Association, the National Solid Waste Management Association and the Environmental Research Foundation.

I am testifying today to raise concern over the less visible but severe impacts that the North American Emission Control Area or "ECA" is having on businesses that rely, directly and indirectly, upon Short Sea Shipping to complete essential public and private infrastructure and construction projects.

A. Eagle Rock Aggregates

To best understand how the ECA impacts businesses such as Eagle Rock Aggregates one should understand what we do and how we do it. Eagle Rock imports and distributes large volumes of commercial grade construction aggregate as a wholesale supplier to regional concrete contractors. Our flagship terminal, located in Richmond, California receives bulk cargoes from specially designed self-unloading vessels for final delivery via our storage and distribution center. Our facility, built in 2007, features an enclosed building which has a capacity to store 50,000 tons of material. We are permitted to handle 1.5 million tons of aggregate annually. In addition to our Richmond facility, we also use other marine terminal sites in San Francisco, Redwood City, and in Petaluma. In 2013, we are projected to ship over 3 million tons of construction aggregates into the San Francisco market. Additionally, Polaris Minerals ships aggregates directly from the quarry to Hawaii for commercial, military, and mass transit

projects. We have received both Federal and State permits for a new terminal under development within the Port of Long Beach to serve the greater Los Angeles Region beginning in 2014.

B. Construction Materials

Marine delivered materials supplied by us are high quality sand and gravel. These materials are the key construction aggregates required for high strength concrete mixes needed in massive quantities to support major infrastructure projects such as commercial and residential structures, public facilities (schools and hospitals), public works projects (sewers, runways, and water infrastructure) roads, and bridges. The premium material shipped from the Orca quarry in remote British Columbia is our cargo; it is of a very high grade and meets the rigorous performance standards demanded by the American Society for the Testing of Materials (ASTM) for use in the United States. It also meets the rigorous specifications of the California Department of Transportation (CALTRANS) for their infrastructure projects. Our material's high durability and favorable mineral particle shape results in very strong concrete with low cement content resulting in a final concrete product meeting high strength performance specifications while reducing costs to the construction industry and the public.

II.
ECA Regulatory Requirements

The ships employed to deliver our cargoes meet all of the provisions of the International Convention on the Prevention of Pollution from Ships (MARPOL), including Annex VI of the convention. Annex VI defines measures to reduce air emissions from ships. It is under the auspices of Annex VI that the North American ECA went into effect on August 1, 2012. The ECA creates a 200 mile zone around the United States and Canada (with the exception of the Aleutian Islands and other limited outlying areas). Upon entering the 200 mile ECA, ships must switch from heavy marine fuel oil to a low sulfur fuel containing no more than 1% of sulfur to reduce air emissions. In 2015 the sulfur levels in marine fuel will be dramatically lowered (by regulation) to 0.1% for all ships operating inside of the ECA regardless of their size or measured emissions.

As a member of the Maritime Industrial Transportation Alliance (MITA), I am concerned that the current ECA boundary was established without firm scientific rationale for all vessels. The boundary overwhelms vessels engaged in the short sea trade routinely or those exclusively operating within the 200 mile ECA or self-unloading vessels which, by competitive necessity, are typically smaller vessels, with corresponding smaller and less polluting propulsion systems.

A. Independent Analysis Conclusions

A study released in 2012; *"Modeling the Air Quality Impacts of Short Sea Shipping Emissions and the Implication for the North American ECA"* conducted by Drs. Ranajit Sahu and Andrew Gray, analyzed short-sea ship emissions (Dr. Sahu's and Dr. Gray's curriculum vitae are included in Exhibit A of the Report). The study indicates that smaller ships (with corresponding lower horsepower propulsion systems) used in short sea trades, have negligible environmental impact on the East or West Coasts of North America when operated beyond 40 miles. More specifically, the results indicate that ships fitted with propulsion systems of 20,000 horsepower (14,913 kW) or less had no (or negligible) air quality

impact on the coasts even when using fuel with a sulfur content of 2.6%. Despite using test fuel assumptions of 2.6% sulfur, (over twice the sulfur content permitted by the current ECA and 26 times the sulfur content of the pending 2015 ECA), the specimen vessels still performed exceptionally well indicating negligible SO_x concentrations at the coastline when the ship was 40 miles off-shore and beyond.

III.
Why Short Sea Shipping Works for Eagle Rock Aggregates

We have long considered self-unloading short sea ships such as the fleet owned and operated by CSL, to be a vital component of our supply chain. The self-unloading short sea ships that we employ make operational, economic, and environmental sense on various scales. The critical sea-bridge provided by Short Sea Shipping is a foundational element of our business model. History has proven that self-unloaders; with their self-contained conveyor cargo transfer systems provide the best option for clean, safe, reliable, and cost-effective transportation of the large volumes of material that companies like Eagle Rock move.

A. Environment

The 2011 San Diego Regional Aggregate Supply (SANDAG) Study commissioned by the San Diego Area Governments and CALTRANS, through its own independent modeling, revealed that on a cost per ton mile basis ships have lower fuel consumption and CO_2 emissions than trucks or rail before the introduction of the 200 mile ECA.

Specifically, from a fuel consumption perspective, shipping out performed all other modes of transportation in a gallon per cargo ton analysis[1]:

Gallons per Net Ton		Pay load
• Truck	0.0086	25 tons
• Rail	0.0021	100 tons/hopper car
• Barge	0.0068	1,500 tons
• Ship	0.0004	72,786 tons

Similarly, the SANDAG study concluded that ships' CO_2 emission rates were far less per net-ton of cargo mile of cargo than any other mode as follows[2]:

Grams of CO_2 per Net Ton-Mile		Pay load
• Truck	86.9	25 tons
• Rail	21.4	100 tons/rail car
• Barge	69.6	1,500 tons
• Ship	5.34	72,780 tons

[1] SANDAG Study, Table 4-2, Page 4-9
[2] SANDAG Study, Table 4-4, Page 4-10

The average self-unloading bulk-ship, such as the assets that we employ from CSL, can carry approximately 70,000 deadweight tons of cargo. Compared to other modes of transportation; one short sea ship's carrying capacity is equal to:

- about 636 rail cars; or
- about 3000 trucks at 25 short tons each

In July 2012, the U.S. Green Building Council that publishes LEED - the green building rating system used by architects announced that for purposes of calculating waterborne transport of construction materials the actual mileage would be divided by 15 based on the environmental impacts. As a consequence, short sea shipping of aggregates from Vancouver Island has the same impact as a 69 mile one-way trip for land transportation. That is less than the distance that aggregates will be trucked in many regional markets based on remaining quarry life projections and shortfalls based on forecasted construction needs.

B. Social Value

Socially, the ships that arrive at our facility use screens and suppression systems to reduce fugitive dust during the cargo discharge. Additionally, the state-of-the art conveyor systems will deliver cargo at 4000-5000 tons per hour which means a quick turn-around time, less time at the dock, and therefore, less visual and noise impact to our neighbors. This assertion has been borne out in independent analyses conducted under the National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA).

C. Volume Efficiency

The types of construction projects that Eagle Rock supports are major endeavors that are critical to restoring, improving or re-shaping vital infrastructure, housing, and sustainable regional economic development. The volume of sand and gravel required for the concrete to build road, bridge, and structural projects is significant. Projects such as these require material tonnage measured in hundreds of thousands not hundreds or thousands. The most viable option for most of these regional needs given the overall shortage of land sited aggregates is marine transportation.

D. Flexibility

The ships' physical foot prints are smaller which, allow entry to confined dock spaces that larger ships cannot negotiate. Further, the relatively small size and corresponding shallow draft facilitate access to smaller shallow water ports. In some extreme cases ports are too shallow, even for the self-unloaders, such as Petaluma site that supplies the northern San Francisco Bay counties. These unique instances are where the real value of self-unloading ships are leveraged. Using their self-contained conveyor and articulating boom systems, self-unloading ships discharge cargo onto shallow water barges in the shelter of a safe anchorage for final delivery. The operational utility of the self-un-loading short sea ship is truly unmatched.

IV.
Economic Impact of ECA

Aggregate is a low-unit-value commodity with high transportation costs due to its bulk and weight. The inherent high cost to transport cargo will now be additionally impacted by fuel costs. Eagle Rock selected its Richmond site because of its central location to Bay Area customers, access from the sea, and ability to berth Panamax size coastal bulk ships. Our siting decision was, in part, based on the existing cargo rates. In fact, freight rates are a major component of cost in the success of implementing our business model and containing the cost to the ultimate end user for a cubic yard of concrete.

As we prepared for the North American ECA in 2011 and the first half of 2012, Eagle Rock planned for an acceptable 3-10% marine cargo rate increase based upon the best available predictions at the time. We are now finding through no fault of the shipping companies, fuel surcharges of 20% over pre-ECA rates, which is not sustainable.

A. Fuel Surcharges

The United States is now about one year into the first phase of the ECA which requires ships to use 1% sulfur fuel within 200 miles of the coast, as opposed to their legacy Intermediate Fuel Oil (IFO). On the West Coast, fuel storage and availability is causing the 1% sulfur fuel to be sold at over a 20% premium of pre-ECA 2012 (IFO) prices. This alone is a dramatic fuel cost increase borne by the shipping company which is passed to the customer in a fuel surcharge or cargo rate increase.

What is more concerning is that the second phase of the North American ECA is set for enforcement on January 1, 2015. At this milestone, the North American ECA fuel sulfur content will be dropped [again] to 0.1% when operating inside of the 200 mile boundary. The only viable fuel alternative for ships is Marine Gas Oil as there is no Intermediate Fuel Oil refined to such a low sulfur level. Marine Gas Oil currently costs about 22% more than the presently acceptable 1% low sulfur fuel and an unsustainable 40% higher than Intermediate Fuel Oil. Witnessing such dramatic and unprecedented fuel premiums, only one year into the ECA, I am not convinced that we won't see at least a 40% increase in gross fuel costs that the MITA and operators like CSL predict.

B. Quantified Impact

Current ECA related fuel surcharges are at 20% for Eagle Rock. This balloon in price is passed, in part, to the *Ready Mix* companies that we serve at about 74 cents per ton of material (on average) which equates to about $1.50 in added cost to each cubic yard of concrete. The result is an unnecessary higher final price of the concrete that our aggregate produces for houses, hospitals, bridges and other commercial as well as tax payer funded municipal projects.

Example: I offer an example of a typical public works project to better illustrate consumer impact.

Borrowing from an excerpt of the 2012 California Aggregate Sustainability Report, a "one mile of six-lane interstate highway requires about 113,500 tons of aggregate."[3] *Based on the fuel surcharges that Eagle Rock is shouldering, we must pass a portion of the added cost to the "Ready Mix" companies that*

[3] California Department of Conservation 2012 Aggregate Sustainability in California Report, Page 18.

will perform the concrete work for the municipality. If the cost of the material is approximately $20 per ton and we add just 74 cents per ton to that material, it needlessly adds $83,990 to the price tag of that one mile of road. If the project grows to five miles of road, the added price of the road approaches a half of a million dollars ($419,950).

These are added costs to consumers with no apparent added environmental benefit as evidenced by the Sahu/Gray Study.

C. Hidden Impacts

As a growing company seeking to reach a business objective to aid in alleviating the California and Hawaii aggregate short-falls, we endeavor to expand our operations and geographical reach. We are very interested in pursuing cargo distribution services similar to our Richmond facility in Southern California.

In 2010, Eagle Rock Aggregates secured a lease to develop a marine distribution terminal within the Port of Long Beach. We have secured the required Federal and State permits to import 3 million tons of aggregate annually into the greater Los Angeles area. We must now look at the long term ramifications of the ECA as ships will continue to transit the entire 3000 mile (approximate) round-trip voyage entirely within the ECA requiring exclusive use of 0.1% sulfur fuel starting on January 1, 2015.

Similarly, Eagle Rock Aggregates is negotiating with the Port of San Diego for rights to construct a marine aggregate terminal with hopes to start operations in 2016. We are now examining the ECA influenced cargo rates to weigh the viability of our plan to assist in addressing the aggregates shortfalls identified in the SANDAG study.

Reducing, limiting or losing such expansion opportunities will not only deeply impact Eagle Rock as a company but will also limit efficient, economical, and environmentally sound delivery of much needed aggregate for Southern California. Additionally, stalling an expansion could result in uncreated jobs that we would provide and over reliance on other cheaper yet less efficient modes of transportation. Our decisions to expand and to what extent are influenced by the extraordinary fuel prices that are a result of short sea ships sailing entirely (or largely) within the ECA.

V.
Macro Issues

Quoting the 2011 San Diego Association of Government Study: "While the demand is expected to increase, according to a 2006 study by the California Geological Survey, an anticipated aggregate supply shortfall is expected in nearly all regions of California. According to the study, existing sources of aggregate in the San Diego region will be able to meet only 17 percent of the demand through 2055. The region is expected to use more than a billion tons of aggregate by the end of 2055. Permitted aggregate reserves are estimated to be 198 million tons, resulting in an 83 percent shortfall in meeting the region's needs. The same study projects a 40 percent shortfall in the statewide supply of aggregate material, reflecting the importance of this topic as a statewide concern."[4] Such a reduction in resources demands

[4] SANDAG Study, Page ES-1

sourcing from longer distances by road or rail adding to cost, congestion, and environmental impact. Marine transportation can relieve much of this strain including sourcing.

A. 2011 San Diego Aggregate Supply Study (SANDAG)

In 2011 the San Diego Association of Governments produced a study that examined their regional aggregate resources and the modes of the transportation used to deliver construction aggregates. Their independent study, (San Diego Aggregate Supply (SANDAG)) highlighted marine transportation as the most fuel efficient and less emitting transportation option per ton of cargo. This conclusion was based on fuel sulfur and emissions data before the ECA took effect.

B. Maritime Industrial Transportation Alliance (MITA) Participation

In 2012, Eagle Rock recognized that the ECA was inflicting economic damage beyond the scope that was projected by the EPA. Seeking to raise the visibility of the issue, we sought a united public voice to seek a balanced solution. We joined a coalition of other industrial leaders in the United States and Canada that were also being severely impacted by the North American ECA called the Maritime Industrial Transportation Alliance or "MITA." We selected to join the MITA not because it opposes the ECA, but rather it advocates a science based approach to improving air emissions from ships while considering the economic value that Short Sea Shipping delivers. The MITA takes a strong position that all ships are not the same and don't create the same emissions. The MITA and its proposal for a balanced ECA is supported by the following members.

- U.S. Gypsum / Gypsum Transportation Ltd
- Georgia Pacific
- National Stone, Sand and Gravel Association
- National Gypsum Company
- Polaris Minerals / Eagle Rock Aggregates
- Road and Highway Builders
- Atlantic Coast Materials LLC
- Canadian Manufacturers & Exporters
- Chamber of Marine Commerce
- Portland Cement Association

VI.
Transportation Alternatives

The North American ECA aside, the 2012 California Aggregate Study supports the well understood notion that transportation plays a major role in the cost of aggregate to the consumer. Aggregate is a low-unit-value, high-bulk-weight commodity which makes transportation a principal constraint for final consumers. We at Eagle Rock have invested in an infrastructure that relies upon ships to deliver our product. The volume and nature of our product necessitates the use of ships as the only viable transportation option for us to transport readily available aggregates from environmentally sound, economically feasible quarries in British Columbia to U.S. markets facing demonstrated shortages. The ECA will now penalize our business model that by all accounts, is eco-friendly based on the favorability

of marine transportation, as outlined in a 2011 Maritime Administration (MarAd) report to Congress[5]. The ECA penalties that we face from higher cargo rates driven by unprecedented fuel price hikes, will be passed to our customers which ultimately impact constituents. The SANDAG study cites the 2006 California Geologic Survey projection of a "40 percent shortfall in the statewide supply of aggregate material needed to meet demand through 2055. They also project an 83 percent shortfall in the region's supply of aggregate material. As the locally based supply of aggregate decreases, needs are met by importing aggregate from other regions or other countries."[6]

A. Modal Shift Options

It is important to note that many industries will have a choice in the mode of transportation that serve them. Where road or rail is available, modal shift can relieve operational costs to operators – but with negative environmental and social impacts of increasing rail and road traffic. Despite the well documented social, environmental, and air quality benefits of Short Sea Shipping, there is concern that consumers with a choice, will be forced to pursue cheaper yet less efficient modes of transportation that are more damaging to the environment. Paraphrased, the 2012 California Aggregate Sustainability Report estimated "that over 7.2 million truck trips are conducted each year in California to haul aggregate alone... which amounts to more than 360 million truck miles traveled between 1981 and 2010."[7]

Considering one 50,000 deadweight ton self-unloading bulk ship can remove nearly 2000 trucks, 25 short- ton trucks (and all of the on-shore emissions that they produce), it makes a compelling eco-friendly argument to consider the wider benefits of Short Sea Shipping. Increasing to a slightly larger short sea ship of about 70,000 deadweight ton could remove roughly 3100 trucks.

MarAd agreed in their 2011 report to Congress citing "America's Marine Highway offers the potential of significantly enhancing the environmental sustainability of the nation's transportation system. In particular, water transportation is often the most energy-efficient means of moving cargo between two points, with corresponding reductions per ton-mile in greenhouse gas (GHG) emissions. Similarly, with appropriate technology and regulation, water transportation is an environmentally-friendly transportation mode that can reduce noise and air pollution and have minimal impacts on water quality." [8]

The unintended consequences of a modal shift of any scale, conflicts with the Maritime Administration's 2010 Marine Highway Program, which will increase truck and rail demand. The California Department of Conservation, when considering additional road hauling claimed "the importation of aggregate from neighboring regions typically results in longer [road] haul distances, higher costs, and increased carbon dioxide emissions, air pollution, traffic congestion, and highway maintenance."[9] Social factors of modal shift include:

- elevated road and rail accident risk;
- increased road and infrastructure maintenance;

[5] America's Marine Highway Report to Congress; Maritime Administration, April 2011 page 21
[6] 2011 SANDAG Study, ES-1
[7] California Department of Conservation 2012 Aggregate Sustainability in California Report Page 1
[8] America's Marine Highway Report to Congress; Maritime Administration, April 2011 page 21
[9] California Department of Conservation 2012 Aggregate Sustainability in California Report, Page 10

- higher road congestion;
- more noise pollution;
- luminous pollution;
- vibration impacts; and
- visibility impacts.

Weighing the vast social and environmental benefits of transporting large quantities of low value but industrially necessary commodities by sea, I can't understand why a blind eye has been turned to the very real possibility of ECA driven modal shift.

VII.
The Eagle Rock Projects

As a wholesaler, we import and distribute nearly three million tons of aggregate annually to "Ready Mix" concrete companies. The Ready Mix concrete companies use our aggregate to tailor mix concrete to specific specifications required by their customers for particular projects. Since we started our Northern California operations in 2007, short sea self-un-loading ships have delivered the unmatchable volumes of aggregate that were needed for our wholesale distribution to major public and private projects including:

- San Francisco Bay Bridge (East Span) which opened in September;
- The Caldecott Tunnel (California State Highway 24, Berkeley to Walnut Creek)
- The University of California, Berkley Memorial Stadium (60,000 seat capacity)
- The Millennium Tower in San Francisco;
- The new Trans Bay Transit Center and tunnel connecting San Francisco to Oakland.
- In Hawaii, products delivered by CSL will significantly contribute to a new light rail that will be constructed over the next 18 months as well as on-going DoD projects.

VIII.
Conclusion

The North American ECA, through unintended consequence, is likely to change the landscape of Short Sea Shipping and the industries it serves in the United States unless regulatory relief is provided. I stand with CSL and my fellow MITA members in pursuit of a "right sized" ECA that improves air quality without damaging a narrow margin industry.

My testimony regarding the impacts to Eagle Rock only discusses my one small niche that relies on Short Sea Shipping. Short Sea Shipping companies will be forced to raise rates on all of their customers, not just Eagle Rock. The short sea customer portfolio extends far beyond aggregates; it includes end users in the fields of agriculture, energy, steel production, various construction, and mineral imports. I am only one customer, providing my perspective and real-world example of the ECA and this issue of growing concern.

I join Mr. Jones in proposing that Congress and the EPA, in consultation with the U.S. Coast Guard and MarAd, to revisit the ECA boundary and:

- Maintain the 200 nautical mile North American ECA for all ships using 1% sulfur fuels; however;

- **Reduce** the 200 nautical mile ECA to **50** miles for **0.1%** sulfur fuels (in **2015**) for lower emitting ships of 20,000 horsepower and below.

I thank the entire Sub-committee for this opportunity to address this important issue while there is still time to reach a balanced solution.

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