



WORLD SHIPPING COUNCIL
PARTNERS IN AMERICA'S TRADE

Statement of

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Before the

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

on

***“Regulation of the Maritime Industry: Ensuring U.S. Job Growth While
Improving Environmental and Worker Safety”***

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Mr. Chairman and members of the Subcommittee, thank you for the invitation to testify before the Subcommittee today. My name is Christopher Koch. I am President and CEO of the World Shipping Council.¹ WSC members comprise an industry that has invested over \$400 billion in the vessels, equipment, and marine terminals that are in worldwide operation today. Approximately 1,400 ocean-going liner vessels, mostly containerships, made more than 25,000

¹ The World Shipping Council (WSC) is a non-profit trade association whose goal is to provide a coordinated voice for the liner shipping industry in its work with policymakers and other industry groups with an interest in international transportation. Liner shipping is the sector of the maritime shipping industry that offers regular service based on fixed schedules and itineraries. WSC members carry over 90% of the United States' containerized ocean commerce, and include the full spectrum of carriers from large global lines to niche carriers, offering container, roll-on/roll-off, and car carrier service as well as a broad array of logistics services. The industry generates over one million American jobs and over \$38 billion of wages annually to American workers. A complete list of WSC members and more information about the Council can be found at www.worldshipping.org.

calls at ports in the United States during 2011 -- almost 70 vessel calls a day. This industry provides American importers and exporters with door-to-door delivery service for almost any commodity to and from roughly 170 countries. In 2011, approximately 30 million TEU² of containerized cargo were imported into or exported from the U.S.

In addition to containerships, liner shipping offers services operated by roll-on/roll-off or "Ro-Ro" vessels that are especially designed to handle a wide variety of vehicles, including everything from passenger cars to construction equipment. In 2011, these Ro-Ro ships brought passenger vehicles and light trucks valued at \$72.4 billion into the U.S. and transported units worth \$32.5 billion to U.S. trading partners in other countries.

More than 50 percent of the \$1.2 trillion in annual U.S. ocean-borne commerce is transported via liner shipping companies. It is clear why the international liner shipping industry is one of the elements of the nation's "critical infrastructure".

WSC and its member companies work closely with the Congress and the various responsible U.S. government regulatory agencies to try to develop and implement effective and efficient regulatory regimes. Today, my testimony will briefly describe four current, different regulatory initiatives that address environmental issues and maritime safety, namely: 1) ballast water treatment technology regulations; 2) NOx, SOx and particulate matter air emissions and the North American Emission Control Area that will become effective on August 1st; 3) carbon emissions; and 4) a maritime safety initiative to obtain verified container weights.

Ballast Water Treatment Technology Regulations

The Subcommittee is well aware of the issue of ballast water treatment technology and regulation, and the industry appreciates the efforts of the Subcommittee in House passage of Title VII of H.R. 2838, a bill which recognizes that the logical way to address this issue is for the United States to have a single, scientifically sound treatment standard for ships that operate and discharge ballast water in U.S. waters.

Ballast water treatment technology is costly. For the liner shipping sector alone, a reasonable estimate of the cost for installing treatment technology on the vessels calling U.S. ports would be in excess of \$2 billion³ – a cost that the carriers will obviously try to recoup from

² A TEU is a standard container measure that represents a twenty-foot container. Most containers moving in the U.S. trades are forty-foot units equal to 2 TEU. 30 million TEU equates to about 18.6 million container loads of U.S. cargo.

³ Cost estimates will vary according to the type of technology, the vendor, and the volume of ballast water that will need to be treated, and one cannot make a reliable estimate until it is known which

the exporters and importers whose cargo they carry. The purpose of my testimony is not to complain about these substantial costs, but to state what should be evident: This is a very large capital commitment that a ship can reasonably be expected to make once. The idea that different U.S. agencies under different statutes might apply different standards, or that the various States might apply different standards, is an anathema.

The U.S. Coast Guard (USCG) and the Environmental Protection Agency (EPA) are working to address this issue under two different statutes enacted by Congress. The agencies have demonstrated their interest and commitment to coordinate their efforts and to produce a single, uniform regulatory approach from the U.S. federal government. Significant progress has been made in this regard. Further progress is needed. The agencies have conducted extensive scientific analysis and, based on sound science, agreed on what the federal ballast water treatment standard should be, and they have agreed on an implementation schedule for the existing fleet's installation of such technology. That schedule appears to be challenging, but workable, for existing vessels.

With respect to the application of ballast water treatment technology to "new-builds", the agencies are not yet fully coordinated. They clearly need to be. The Coast Guard final rule's implementation schedule for new-builds applies to vessels constructed on or after December 1, 2013, whereas the implementation schedule for new-builds under EPA's draft next Vessel General Permit applies to vessels constructed on or after January 1, 2012. EPA will need to align its definition of a "new-build" in the next VGP to be consistent with the Coast Guard final rule. It would make no sense for a vessel constructed between January 1, 2012 and December 1, 2013 to be classified a new-build by EPA (and need to have installed treatment technology upon vessel delivery on or after December 19, 2013), but the same vessel would be classified an existing vessel by the USCG Final Rule (and need to have installed treatment technology by the first dry-docking after 2016).

systems will receive U.S. Coast Guard type approval, and which technology companies have gotten the financing to move to commercial production. Nevertheless, if one assumes an average capital cost of \$1 to \$1.5 million per system and \$500,000 for installation on the approximately 1,400 different liner shipping vessels currently calling U.S. ports, that would equate to \$2.1 to \$2.8 billion in cost for the liner shipping sector alone. The total cost number for industry compliance will clearly be much higher however, because: liner shipping vessels constitute a minority percentage of the vessels calling U.S. ports; vessel operators will probably need to install the technology on ships that are not currently calling the U.S. so that they would be capable of calling here in the future; and treatment systems on tankers and bulk vessels which discharge far greater volumes of ballast water are far more expensive than systems for container vessels that discharge only limited amounts of ballast water. Further, this estimate does not include the increased vessel operating costs or the maintenance costs associated with the utilization of these technologies.

This needed alignment between the agencies in reality will create no delay in the installation of ballast water treatment technology on new ships, because such technologies will need to be “type” approved by the Coast Guard, which is a process needed to demonstrate that the technology reliably and effectively meets the defined standard, *and* they must comply with the standard based on testing conducted by an independent, third party lab in accordance with the EPA’s land-based Environmental Technology Verification (ETV) protocol. It will take several years for these approval processes to be performed and completed. These approval processes are stricter than the International Maritime Organization (IMO) Convention’s approval standards, but they are fully justified and warranted, as demonstrated by the fact that two different technology vendors that had received IMO type approval of their equipment without going through these approval processes have recently had to pull their products from the market because they could not reliably meet the treatment standard.

New-builds will need to be given a reasonable amount of time to install U.S. type approved treatment technologies, once a reasonable number of technologies have obtained USCG type approval and are commercially available. We note that the USCG Final Rule’s new-build implementation schedule and extension provisions would allow for a new-build to seek an extension if USCG type approved technologies are not available for installation by the time the vessel is delivered, but that the EPA has not yet adopted a similar policy. The EPA’s draft VGP needs to be amended so that the next VGP incorporates the same regulatory approach as the Coast Guard has adopted in order for the U.S. federal government to establish a single, predictable set of ballast water treatment installation and approval requirements. We are in discussion with both agencies about this issue and are hopeful that a common and workable resolution will be achieved.

In conclusion, we appreciate the joint efforts of the Coast Guard and EPA to coordinate the development and implementation of a single, uniform federal approach to the installation of ballast water treatment technology on ships, and we remain hopeful that these efforts will result in the next VGP being made consistent with the Coast Guard’s final rule. At the same time, it is appropriate to note that it is frustrating to deal with this issue through the illogical and incoherent legal regime that currently addresses this issue – namely, two different federal agencies operating under two different federal statutes, whose final conclusions, even if and when fully coordinated, can be second guessed by 50 States being given authority to add their own different standards to the federal VGP (under the Clean Water Act’s Section 401 certification process). This remains, at best, wholly illogical and, at worst, a recipe for unnecessary and unproductive conflict.⁴

⁴ This is not a moot issue. Notwithstanding the very clear, coordinated decision by EPA and the Coast Guard about the appropriate federal ballast water treatment technology standard, the scientific review

Ships engaged in interstate and foreign commerce are mobile assets that by necessity visit and operate in many different jurisdictions. They require a single technology standard so that they can install compliant systems on their ships that will allow them to operate legally in whatever port they may call. We appreciate that this Committee understands this point and that the House passed H.R. 2838 that would address this problem. We thank the Committee for its continued interest in this issue, and hope that the Senate will support this Committee's efforts and approve title VII of that bill this year.

NOx, SOx and Particulate Matter Regulation: North American Emission Control Area

The WSC supported the adoption of stringent international air emission standards through the recent amendments to MARPOL Annex VI, as adopted by the IMO. The new Annex VI standards had the strong support of the federal government as well as state and local governments, including the U.S. port community. The revised Annex VI standards will result in significant improvements in air quality, particularly with respect to NOx (nitrogen oxides), SOx (sulfur oxides) and particulate matter (PM).

Pursuant to the authority provided in the Annex VI amendments, the United States and Canada have jointly established a North American Emission Control Area (ECA) that establishes a 200 nautical mile zone covering all the heavily trafficked waters adjacent to the two countries. Beginning August 1, ships entering the ECA will be required to use fuel with a maximum sulfur content of 1% or to use some alternative compliance technology, such as exhaust gas scrubbing. Under the regulation, beginning in January 2015, the permissible sulfur content in marine fuel to be used in the ECA will be further reduced to 0.1%.

At the time that EPA proposed the establishment of the ECA, the agency estimated that compliance costs in 2020 would exceed \$3 billion. Of the estimated \$3 billion in annual costs estimated for 2020, \$2 billion is associated with the costs of using lower sulfur distillate fuels

and support for that standard, and the appropriate technology testing protocols for such technologies, the California State Lands Commission continues to propose impractical and unproductive regulatory variations to address the ballast water discharge issue. *See, e.g.,* Comments filed with the California State Lands Commission by WSC and other industry organizations earlier this month at: http://www.worldshipping.org/public-statements/regulatory-comments/CSCL_from_Shipping_Industry_Re_Compliance_Program_Final.pdf

while in the ECA.⁵ We do not know whether recent price increases in the fuel market have increased the estimated compliance costs.

The industry is currently coordinating with EPA and the Coast Guard with respect to planning for the August 1 implementation of these new requirements.

CO₂ Emissions

The development of new regulatory regimes to address NO_x, SO_x and PM vessel air emissions, which can have direct effects on human health, are relatively clear and established. The effort to negotiate a new regime to address carbon emissions from shipping and their contribution to global climate change is an on-going effort at the IMO. We are aware of this Committee's keen interest in the European Union's regional carbon emissions regime for international aviation and in the International Civil Aviation Organization (ICAO) deliberations, and would like to provide a brief review of how the IMO is trying to address this issue for international shipping.

In July of last year, the IMO adopted mandatory vessel efficiency design standards for newly-built tankers, bulkers, and container ships. The IMO estimates that the measures it has already agreed on will reduce annual CO₂ emissions by up to 200 million tons by 2020 and that, by 2030, CO₂ emissions are estimated to be reduced between 230 and 420 million tons annually. In other words, carbon emissions will be reduced in 2020 between 10 and 17%, and by 2030 between 19 and 26% compared with business as usual. The IMO is continuing these efforts and is expected to adopt mandatory energy efficiency design standards for other classes of newly-built vessels, such as cruise ships and Ro-Ro vessels, in the near future.

These achievements are significant; they improve the energy efficiency of the industry and reduce emissions. The IMO is also continuing its discussions about what kind of additional regime might be developed, including what kind of measures might be developed for application to the existing fleet. As could be expected, this is proving extremely difficult and contentious from both a technical and a political perspective, and a thorough review of all the issues involved is probably beyond the scope of this hearing. In a nutshell, various proposals have been made, including the following:

⁵ The other \$1 billion results from engine hardware on new ships and the use of urea in after-treatment systems using Selective Catalytic Reduction Systems (SCR) to control NO_x.

- Establishment of an *emissions trading regime* for shipping, although in the absence of an international emissions trading agreement applicable to the global economy, this concept seems like a remote possibility, and there are few advocates for it;
- Proposals intended to focus on improving the *energy efficiency* of the existing fleet, although there is strong sentiment that it is inappropriate to apply the energy efficiency design index to existing vessels, thus making such a concept difficult;
- An international *levy* or tax on marine fuel that would raise tens of billions of dollars of revenues each year to be dedicated to an international *fund*, which would expend such revenues on various kinds of proposed uses, such as climate mitigation projects or carbon “offset” projects in lesser developed countries; and
- Opposition from various governments arguing that whatever regime may be considered, it should not be applied to the ships and goods of developing nations or those identified as non-Annex I countries as defined in the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

Any proposal to create an international carbon emissions trading regime or an international levy/fund scheme would require the IMO to agree on a new treaty, and would require that treaty to be ratified by a sufficient number of countries to come into force. That seems like a remote possibility at this time for a variety of reasons.

Such a treaty would not be self-implementing, and thus, for U.S. ratification, would need not only the advice and consent of the Senate, but also the enactment of implementing legislation by this Committee and both Houses of Congress. We trust that the Administration will keep the Congress informed of the U.S. position with respect to these negotiations at the IMO.

When considering carbon emissions, it is important to note that the international shipping industry, which produces an estimated 2.7% of the world’s CO₂ emissions, is already highly focused on further improving its energy efficiency, and has every economic reason to continue to do so, regardless of what the IMO may decide. For example, a typical, modest sized 5,000 TEU container ship may have fuel tanks with a capacity to hold 6,500 tons of fuel. At today’s market price of around \$710 per ton, that would equate to more than \$4½ million worth of fuel for a “fill up”. The liner shipping industry alone is probably spending roughly \$50 billion a year on fuel for vessels serving U.S. import and export commerce,⁶ and these costs will increase

⁶ A 7,750 TEU container vessel used in the Trans-Pacific trade, with fuel consumption of 217 tons per day, on a single 28-day round trip voyage, with fuel cost of \$710 dollars/ton, would produce a round trip fuel bill of \$4,313,960. This example’s scenario, if extended to a *single* weekly Trans-Pacific service using five such vessels, would create an annual fuel bill of more than \$280 million for that single weekly

even further over time as the global economy and demand for fuel grows, and as additional fuel cost increases come from the required use of low sulfur fuel in Emission Control Areas.

There is no reason to think that the industry is not already highly focused on doing what it can to reduce these costs. Because the cost of fuel is already by far the largest cost for liner vessel operations, the industry has significantly improved its energy efficiency and reduced its carbon emissions through a variety of measures, without the need for or encouragement of additional levies, taxes or emission trading regimes. It will continue to do so.

For example, increased vessel size has dramatically improved efficiency. The most modern container ships built by Sea-Land when I worked for them in the 1990's (the 4400 TEU "Champion" class vessels) produce 65 grams of carbon dioxide per TEU/kilometer. Today the 15,500 TEU E-class ships of Maersk are 86% more efficient and produce 35 grams of CO₂ per TEU/kilometer when they transport the same cargo container.

Another example of the liner industry's energy efficiency improvement is "slow-steaming", where container vessels operate at substantially less than their design speed. This slows the transit time of the ship, but carriers report that when speed is reduced by 20 percent, fuel consumption can be reduced by 40 percent.

Proposals for additional "levies" or taxes on fuel or emission trading allowances on ships could indeed raise many billions of dollars of revenue from maritime commerce if enacted into law, but their effect would be to raise the cost of maritime commerce – ironically the most carbon efficient form of transportation – while being ineffective at improving vessel efficiency or reducing carbon emissions from the industry. As a result, we expect such proposals are likely to face the continuation of both political and practical obstacles at the IMO.

A potential path for the IMO to consider would seem to be to assess how to improve vessel efficiency, beyond what it has already decided to do, with measures that could be adopted under MARPOL Annex VI, rather than measures that would require a new treaty. How this could be done for the existing fleet, however, presents significant challenges. For example, the IMO's Marine Environment Protection Committee recently took a decision that the Energy Efficiency Design Index should not be applied to existing vessels. While this decision was not

service. There are approximately 80 weekly Trans-Pacific services, which probably produce a collective fuel bill in excess \$20 billion per year. In addition there are liner shipping services to Africa, Australia/New Zealand, Central America, Europe, the Middle East, South America and other locations, producing a total annual fuel bill for United States ocean-borne containerized cargo that probably exceeds \$50 billion.

supported by the United States or the WSC, this decision clearly makes it more difficult for the IMO to focus on further improvements within the existing fleet.

The European Union has stated that, if the IMO does not make sufficient progress on an acceptable international carbon emission regime applicable to shipping by the end of this year, it intends to proceed with the development of a regional EU carbon regime that it would apply to maritime shipping operating within and to and from the EU. We understand that for a number of reasons, including the experience with the EU international aviation regime, the European Commission will want to avoid the application of a regional European regime to shipping, so we will have to wait and see how these developments proceed.

Maritime Safety: Misdeclared Container Weights

The issue of misdeclared container weights has been a safety concern for years. Although the shipper of the goods is, by the terms of the Safety of Life at Sea Convention, legally obligated to provide an accurate weight declaration, this is not always done, and most containers are not weighed to verify their declared weight. There is no available data that reliably indicates how many containers are overweight; however, the problem arises in almost every trade. In some geographic trade lanes, the problem is common. Shipping lines have reported that in severe cases, the overweight or incorrectly declared weights reach 10% of the total cargo on board a vessel. Some carriers report that it is not uncommon for actual total cargo weight aboard ship to be 3-7% greater than the declared weight. The problems resulting from overweight containers include the following:

- Incorrect vessel stowage decisions
- Collapsed container stacks
- Containers lost overboard (both the overweights and containers that were not overweight)
- Liability claims for accidents and fines for overweights on roads
- Chassis damage
- Stability and stress risks for ships
- Risk of personal injury or death to seafarers and shoreside workers
- Impairment of service schedule integrity and supply chain service delays for shippers of properly declared containers

In short, overweight containers can present a risk to industry workers, to ships, to equipment, to operational reliability, and to shippers of accurately declared shipments. Overweight containers can lead to higher operating costs, to road safety problems, to liability claims, and to higher administrative costs.

Industry Self-Help Efforts Have Not Solved the Problem: It is general practice for all ocean carriers to instruct their shipper customers on the appropriate and permissible stuffing of containers. In response to several container vessel safety incidents involving container stowage, the World Shipping Council and the International Chamber of Shipping jointly produced a document: *“Safe Transport of Containers By Sea: Guidelines on Best Practices”*. That document was published at the end of 2008 and presented to the IMO Maritime Safety Committee in December 2008. The Guidelines specifically addressed the issue of containerized cargo weight, noting in part that:

- Under the Safety of Life at Sea Convention, the shipper or party stuffing the container is legally responsible for ensuring that “the gross mass of the container is in accordance with the gross mass given on the shipping documents;” and
- As a recommended best practice, Marine Terminal Operators should: “Verify the container weight against documentation by use of a weighbridge or weight gauge/load indicator on yard equipment or, alternatively, verify that weighing has occurred before entry and that such weighing was compliant with accepted best practice.” Most container ships do not have cranes that can weigh containers and thus by necessity must rely on container weight verification to be performed on-shore.

These guidelines and recommended best practices have had little discernible effect on reducing the incidences of shippers providing incorrect container weights, or on ensuring that marine terminals verify the weight of loaded containers upon receipt/prior to loading.

A Universal Container Weighing Requirement Prior to Vessel Lading: It has been our view that containers’ declared weights should be required to be verified via weighing before being loaded onto a ship for export. Weighing a box after it has sailed and been unloaded at the import port does not protect the port workers handling the container or the ship or its crew, or provide an appropriate remedy for the problem.

WSC and other industry organizations have recommended that the IMO amend the Safety of Life at Sea Convention to establish a universal international regulatory requirement that export cargo containers must be weighed before vessel loading, and that the actual container weights be made available to the vessel operator and used for vessel stowage planning. The United States, via OSHA regulation, requires the weighing of every export loaded container

before vessel loading;⁷ however, these OSHA regulations apply only to U.S. marine terminal operators' export operations and do not apply in foreign countries, and thus do not apply to U.S. import containers.

We are hopeful that our recommendation will be seriously considered at the IMO and that the U.S. Coast Guard will be a strong supporter of this initiative at the IMO.

Summary

Mr. Chairman and members of the subcommittee, the above topics represent those environmental and marine safety regulatory initiatives that are most active at the present time for the liner shipping industry. We would be pleased to provide the subcommittee with whatever further information may be of interest as it proceeds with its oversight of environmental and maritime safety matters.

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⁷ U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) regulations require loaded cargo containers to be weighed to obtain actual gross weight before being loaded aboard a ship for export (Title 29, Code of Federal Regulations, Section 1917.71).