



WORLD SHIPPING COUNCIL
PARTNERS IN TRADE

Comments of the

World Shipping Council

Submitted on September 28, 2009 to the

U.S. Environmental Protection Agency

In the matter of

Proposed Rule

Control of Emissions from New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder

Docket Number:

EPA-HQ-OAR-2007-0121

RIN 2060-AO38

Introduction

The World Shipping Council (WSC) offers the following comments with respect to the Environmental Protection Agency's (EPA) Notice of Proposed Rulemaking (NPRM) concerning the control of emissions from new marine compression-ignition engines at or above 30 liters per cylinder, as published in the Federal Register on August 28, 2009. These comments supplement the oral testimony given by the WSC at the EPA public hearing held in New York City on August 4, 2009.

WSC is a non-profit trade association of twenty-nine international liner shipping ocean carriers¹, which seeks to address public policy issues of interest and importance to the international liner shipping industry. The Council's Members include the leading ocean liner companies from around the world -- carriers providing efficient, reliable, and low-cost ocean transportation for America's international trade². The Members of the World Shipping Council are major participants in an industry that has invested over \$400 billion in the vessels, equipment, and marine terminals that are in worldwide operation today. Today, over 1,500 ocean-going liner vessels, mostly containerships, make more than 27,000 calls at ports in the United States each year -- more than 70 vessel calls a day. In 2007, approximately 29 million TEUs³ of containerized cargo were imported into or exported from the U.S. The industry generates over one million American jobs and over \$38 billion of wages annually to American workers. The industry provides the knowledge and expertise that built, maintains, and continually expands a global transportation network that provides seamless door-to-door delivery service for almost any commodity moving in America's foreign commerce. The Council's Member lines 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.

¹ "Liner shipping" involves vessels engaged in regularly scheduled service to and from U.S. ports (e.g., ships leaving particular foreign ports for particular U.S. ports on a weekly schedule) in contrast to cargo vessels that call on U.S. ports for a particular voyage when hired (e.g., tanker and bulk shipping).

² A list of the World Shipping Council's Member companies is available at www.worldshipping.org. WSC Member companies carry over 90% of the United States' international containerized ocean cargo.

³ 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. 29 million TEU equates to about 18 million container loads of U.S. cargo.

The WSC strongly supported the adoption of the stringent air emission standards established through the recent amendments to MARPOL Annex VI as adopted by the International Maritime Organization (IMO). Many of the Annex VI standards are the direct result of proposals made by the United States and other IMO Member States interested in establishing stringent global air emission standards. Consequently, the WSC and its members fully support the proposal to codify and adopt these standards as proposed in the current rulemaking. We, like many other stakeholders, believe that the revised Annex VI standards will result in significant improvements in air quality here in the United States and around the globe.

We recognize that the U.S. Clean Air Act stipulates specific requirements that will result in some technical requirements that differ from elements set out in MARPOL; however, we also would like to stress that maintaining consistency with the specific requirements of Annex VI wherever feasible is critical for two essential reasons. First, the establishment of uniform global standards is vital to the operation of the world's maritime fleet, and the support seen in recent years for the adoption of stringent standards is intimately tied to the parallel objective of maintaining uniform global standards. Second, the United States has invested considerable resources, energy, and negotiating capital in securing a successful outcome to the recent Annex VI standards. Consequently, it is important that the United States respect and codify those standards that it successfully proposed in the recent negotiations at the IMO.

The WSC generally supports the standards as proposed, but hereby also submits comments on specific issues identified in the NPRM. The two most significant policy issues identified in the proposed rulemaking concern potential onboard operational emissions tests, and uncertainty concerning the scope of U.S. enforcement actions in the proposed North American Emission Control Area (ECA). The NPRM requests comment on a series of questions concerning specific monitoring requirements, certification procedures, alternative strategies, and other matters. Our specific comments follow with references provided to the specific page number of the August 28, 2009 Federal Register Notice for ease of reference:

Proposed NO_x Monitoring Requirements: The proposed rulemaking proposes (F.R. page 44479) the installation and use of continuous emissions monitoring systems (CEMS) for measuring NO_x emissions from vessels required to use Tier III control technologies beginning in 2016. We understand the logic of requiring CEMS for advanced "on/off" technologies on vessels built after 2015 and operating in a designated emission control area; however, we believe that EPA should clarify how the U.S. Government will handle certain issues that will arise with the use of such monitoring technology. The current NO_x Technical Code (NTC) is designed to ensure that a given engine meets a given emission value at specific load points and other settings set forth in the NTC. As such, we know that an engine should comply with a

given emission value at the specified load points, but we do not have a certification regime that ensures that an engine does not exceed the stated emission level at all load and operating conditions. As you are aware, this is especially true at very low load levels (e.g., less than 25%) and while engaged in maneuvering in port where the engine is called on for short bursts of power.

Given these engineering realities and the nature of the certification procedures, EPA needs to be clear on how EPA or the U.S. Coast Guard will treat emission spikes and other “exceedences” that would be reflected through use of a continuous emissions monitoring device. Such emission spikes are currently allowed in the certification procedures, and we would expect that enforcement efforts would provide clear guidance to Coast Guard enforcement personnel on what emission patterns actually constitute violation of the standard.

Parameter Adjustment: Following discussion of the proposed CEMS requirement, the NPRM states (F.R. page 44479) that EPA is considering a requirement for operators to perform a simple field test to confirm emissions after parameter adjustments have been made to the engine or following maintenance operations using onboard emission measurement systems with electronic logging equipment. We would like to draw attention to two significant concerns with such a requirement. First, using maintenance operations as a trigger for conducting an emissions test is not practical. Large, slow-speed marine diesel engines (EPA Category 3) are subject to on-going daily maintenance activities. As such, maintenance of the engine is not a unique or irregular event where one would then check emissions. Rather, maintenance occurs continually and an operator would not have a useful reference point on when such a test would be required.

What is the principal objective that EPA is hoping to address through testing following parameter adjustment? For example, while we know an engineer may modify engine parameters that would result in excess NO_x emissions, the on-board test as described is unlikely to serve as a useful deterrent to such modifications because any engineer that intentionally adjusted the engine for this purpose would not record such an action nor follow it with an emission test. We respectfully suggest that further thought needs to be given to what would be accomplished with such a test and whether other options may be more effective to address problems arising from adjustment of the engine.

In-Use Liability: The discussion of in-use liability (F.R. page 44480) states that “Each two-hour period of operation of an engine in a condition not complying with this requirement would be considered a separate violation.” Defining each two hour period of operation as a separate violation could result in very onerous penalties in situations that many people would argue warrant a different approach. For example, in one scenario, a ship’s engineering crew

may be aware that the engine is exceeding the specified emission limits, but correction of the situation is not feasible on board and they must arrange for specialized service at the next port of call where such service could reasonably be provided. In this case, numerous two-hour “violations” would pile up before the problem can be rectified. Recognizing these potential situations, it may be more appropriate to define an obligation to correct the problem at the earliest practicable point of intervention (commensurate with the nature of the engineering action required).

Exhaust Gas Cleaning Technology: The NPRM refers in multiple occasions to the “requirement” to use clean fuels (e.g., the 1000 PPM value applicable in ECAs in 2015), and makes limited reference to the potential use of exhaust gas cleaning technology to achieve equivalent or superior removal results. This matter needs to be clearly articulated since we understand that the intent of the U.S. regulatory structure will allow for the use of residual fuels with higher sulfur content if these vessels utilize exhaust gas cleaning technology that also satisfy the necessary wash-water criteria. More specifically, the final rule should make it clear that the sale of residual fuels is allowed in the United States for use in vessels equipped with appropriate exhaust gas cleaning systems as well as for use outside the ECA.

Page 44513 of the Federal Register notice also states: “We would not consider an exhaust gas cleaning scrubber to be an acceptable control strategy for reducing NOx emissions.” This statement appears inconsistent with EPA policy in at least two ways. First, EPA representatives on the U.S. Delegation to the International Maritime Organization (IMO) have repeatedly argued that exhaust gas cleaning technology should be a viable option for achieving a given emission limit provided the technology can satisfy the necessary effluent constraints. This approach, with appropriate qualifications, would appear equally viable to controlling NOx as it is to controlling SOx and PM. Discharging excessive nutrient loads in estuarine waters would be unacceptable; however, the technology should be given the opportunity to address the discharge challenges and not be eliminated a priori as a viable option. Secondly, EPA’s Office of Transportation and Air Quality is looking at a promising exhaust gas cleaning technology through the National Clean Diesel Emerging Technology Program. If successful, the technology has the ability to remove NOx as well as SOx and PM.

Alternative Compliance Strategies: With respect to alternative strategies concerning advancement of the Tier III NOx standards and improvements in existing marine engines, we support EPA’s conclusions that advancement of the 2016 Tier III standards would be problematic and that development of a remanufacturing requirement for Category 3 marine diesel engines is unlikely to produce significant emission benefits in light of the longevity of slow-speed, 2-stroke marine diesel engines.

Modification of Existing U.S. Fuel Standards to Allow for the Use of 1000 PPM Distillate Fuel: We fully support the revision of the current fuel requirements for marine distillate fuels sold in the United States to allow for the sale and use of 1000 PPM sulfur fuels in ocean-going vessels (F.R. page 44468). This change is important for both policy and technical reasons. On the policy level, the United States strongly advocated the adoption of a 1000 PPM standard in Emission Control Areas defined under the Treaty. Consequently, allowing sale of such fuels in the United States is necessary to facilitate consistency with the agreement. On a technical level, failure to provide 1000 PPM fuel would effectively force use of 15 PPM fuel in large bore marine engines that enter the U.S. without adequate stocks of ECA compliant fuel. This would in turn, exacerbate lubricity and other technical issues with operation of these engines with ultra-low sulfur limits.

2016 Implementation Date for Tier III NOx Standard: The WSC fully supports the proposed implementation date of 2016 (F.R. page 44461) requiring new builds operating in ECAs to meet the Tier III NOx standards. The 2016 date is the right date to allow for field testing and commercial production of the advanced technologies required to meet the Tier III standard. 2016 is also appropriate because it facilitates a "systems approach" where certain technologies such as selective catalytic reduction (SCR) may be used in conjunction with the 1000 PPM fuel standard that takes effect in 2015. Finally, the United States Government proposed 2016 as the effective date for this standard in the negotiations at the IMO that led to adoption of the revised MARPOL Annex VI standards. As such, it is important that the United States supports the date of implementation that it successfully argued for in the negotiations.

Engine Manufacturer Liability: WSC fully supports certification requirements as noted on page 44478 of the Federal Register Notice that holds engine manufacturers responsible for the durability of the relevant emission controls. EPA should also clarify how after-treatment systems will be handled under EPA's certification of Tier III installations and whether manufacturers of after-treatment systems are also liable for performance and over what period of time. This will be especially relevant for engines using SCR and may be important for exhaust gas recirculation as well. WSC requests that EPA clarify any unique certification procedures for approval of Tier III systems, as well as what liability applies to the manufacturer of such systems.

Verification of NOx Emissions for Category 3 Tier III when Reflagged in the U.S: WSC requests that EPA clarify what certification and verification requirements apply to engines on a ship subsequently reflagged in the United States. A useful example is a vessel built in 2016 outside the United States, but subsequently reflagged to the United States registry in 2019.

The 2016 vessel would clearly be required to show a valid EIAPP, but would any testing be required as part of the certification process for a reflagged vessel?

Remanufacturing Program for Category 3 Engines: WSC fully supports EPA's conclusion that a remanufacturing program for Category 3 engines is inappropriate (F.R. page 44512). As noted in the NPRM, large marine diesel engines are not subject to rebuilding as are locomotive and other heavy duty engines. Category 3 marine diesel engines have extremely long life spans because they undergo daily engineering maintenance with major work usually limited to relining of the cylinders and replacement of the valve system.

Deletion of Replacement Engine Exception: The NPRM includes a very brief discussion (F.R. page 44480) of the Agency's intention to remove the existing exception for replacement of existing Category 3 engines. Replacement of a Category 3 engine would be extraordinarily rare; the massive size of these engines make replacement impractical at best and generally infeasible in light of their location multiple decks under the ship's super structure. In the highly unusual circumstance where such an engine was replaced (versus rebuilt), replacement of a Tier II engine with a Tier III compliant engine may render such a replacement completely impractical if larger physical infrastructure is required for the Tier III system. EPA should better explain the rationale for removing the current exemption and what emission benefits can be expected recognizing that replacement of a Category 3 engine is extremely rare.

Separate Applications for CAA and MARPOL Certifications: The NPRM proposes (F.R. page 44480) that two separate certification applications be submitted to the EPA. One application to satisfy the certification requirements stipulated to receive an EIAPP under MARPOL Annex VI and a second, separate application to satisfy the MARPOL requirements plus those elements unique to certification under the Clean Air Act (CAA). While we recognize that EPA certification will require a limited number of unique data elements to satisfy CAA requirements, WSC does not believe that separate packages are necessary or efficient. We recommend that a single certification package be required with a section that includes any of the requirements unique to certification under the CAA. This approach should be simpler for the regulated community as well as EPA and the Coast Guard.

Application of MARPOL Annex VI Standards to Non-Party Vessels: WSC supports the proposal (F.R. page 44481) to require vessels flying the flag of a State not party to MARPOL Annex VI to demonstrate equivalent compliance with the substantive standards found in Annex VI and reflected in the proposed rulemaking. As noted in the NPRM, application of the MARPOL Annex VI standards to non-party vessels is an obligation of States party to MARPOL Annex VI since they are obligated to provide "no more favorable treatment" to non-party ships. This obligation for equal treatment is critical to maintaining a level playing field in maritime

commerce. Equal application is also of critical importance to foster the development and acceptance of international standards, because failure to apply such standards equally would motivate many states to avoid such standards by choosing not to ratify a given treaty instrument.

Demonstration of compliance by a non-party vessel should not be limited to documentation only, but be subject to the same methods of verification, including physical inspection and testing, as used by U.S. enforcement personnel when inspecting a vessel flying the flag of a State party to MARPOL Annex VI.

Extension of ECA Requirements to Internal Waters: We understand that the proposed rulemaking will extend application of the MARPOL Annex VI requirements applicable in emission control areas to most internal waters of the United States. Extension of the ECA requirements to internal waters would presumably apply to both U.S. and foreign-flagged vessels operating in the internal waters of the United States. This action has created some confusion within the regulated community regarding what aspects of the rule apply to U.S. flag vessels only and what elements of the rule apply to both U.S. and foreign-flag vessels. Consequently, we believe it would be very helpful if the final rule is very clear on the scope of applicability for all requirements stipulated in the final rule. To avoid any confusion, it would be useful if the final rule could explicitly note what requirements addressed in the rulemaking (and under what circumstances) apply to foreign-flag vessels.

The NPRM further states (F.R. page 44481) that the ECA requirements “generally apply to internal waters, such as the Mississippi River and the Great Lakes, which can be accessed by ocean-going vessels.” The NPRM further states that these requirements “do not apply in internal waters that are shoreward of an ECA designated under Annex VI; rather the non-ECA requirements of Annex VI apply for these waters.” The use of the term “generally” raises some question as to whether there are exceptions. Are there exceptions? Secondly, the language refers to internal waters that can be accessed by ocean-going vessels. Does this mean that use of higher-sulfur fuel (absent use of an exhaust gas cleaning device) would be allowed in internal waters not accessible by ocean-going vessels? If yes, why? If no, how do you plan to regulate this subset and is the distinction for internal waters that can be accessed by ocean-going vessels necessary? In short, the current language raises questions of where the ECA requirements apply. Better clarity will be very beneficial as company compliance programs are much easier to formulate when the scope of application is unambiguous.

"Operating in U.S. Waters" / Geographic Scope of Enforcement: While discussing application to non-party vessels, the NPRM further refers to such vessels while "*operating in U.S. waters.*" WSC requests that EPA, the U.S. Coast Guard, and the Department of Justice

clarify U.S. port state enforcement actions for violations that occur outside of the 12 mile territorial sea for both party and non-party vessels. Assuming adoption of the North American ECA as proposed by Canada and the United States, vessels are obligated to comply with the relevant ECA requirements while operating within the 200 nautical mile boundary currently proposed for the ECA. The NPRM's use of the term "operating within U.S. waters" raises questions as to the geographic scope of enforcement to be employed in enforcing the requirements of the ECA. First, what is the United States' definition of "U.S. waters" for purposes of enforcement – 3 miles, the 12 mile territorial sea, or the full extent of the ECA which still falls within the 200 mile Exclusive Economic Zone? This is a very important issue. Consequently, WSC requests that EPA, in close consultation with the U.S. Coast Guard and Department of Justice, outline in much greater detail the plan and scope of enforcement actions to be undertaken through port state enforcement actions to ensure compliance by both party and non-party vessels in the North American ECA.

"Flexibility Options:" Page 44482 of the Federal Register Notice seeks comment on the desirability of granting flexibility to Category 1 and 2 engines that operate internationally. WSC supports an option that allows flexibility when operating internationally. The NPRM further requests comment (F.R. page 44483) on the question of whether to allow the use of auxiliary emission control devices (AECD) on Category 1 and 2 engines installed on vessels that operate primarily outside the United States. WSC supports providing this flexibility in the final rule.

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We appreciate the opportunity to comment on this NPRM and look forward to working closely with the government on the implementation of these new requirements.