OPERATIONAL & ENVIRONMENTAL
PERFORMANCE DEPARTMENT

Trading in US Waters

Seminar Series provided by ABS with support and cooperation from US Environmental Protection Agency and US Coast Guard

FOUNDED 1862
ABS

Our Mission

The mission of ABS is to serve the public interest as well as the needs of our members and clients by promoting the security of life and property and preserving the natural environment.

Health, Safety, Quality & Environmental Policy

We will respond to the needs of our members and clients and the public by delivering quality service in support of our Mission that provides for the safety of life and property and the preservation of the marine environment.

We are committed to continually improving the effectiveness of our health, safety, quality and environmental (HSQE) performance and management system with the goal of preventing injury, ill health and pollution.

We will comply with all applicable legal requirements as well as any additional requirements ABS subscribes to which relate to HSQE aspects, objectives and targets.

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1. Introduction

The *Trading in US Waters* seminars were developed to address questions concerning the implementation of recent and upcoming environmental regulations in the United States (US). Areas of interest and concern included the US Coast Guard (USCG) ballast water management regulations, compliance with North American Emissions Control Area (ECA) and the US Environmental Protection Agency's (EPA) 2013 Vessel General Permit (VGP).

Seminars were organized by the Operational and Environmental Performance (OEP) team with collaboration and assistance from local ABS management and Technology and Business Development Directors (TBDs). The December 2014 seminars were held in three locations: Athens, Genève and Hamburg. These seminars attracted over 400 shipowners, ship operators and technical managers interested in achieving a better understanding of the requirements and compliance strategies to trade in US waters.

A major element of these seminars was the participation of speakers from the USCG and US EPA, which enhanced the credibility and relevance of the seminars. ABS was honored that CDR Ryan Allain, USCG – Washington, DC and Mr. Marcus Zobrist, US EPA – Washington, DC were able to participate in the seminars. The USCG and EPA appreciated the opportunity to provide information to the industry via these venues.

ABS also invited local shipowner organizations to present information on topics of significant interest. In Athens, the Marine Technical Managers Association (MARTECMA) and Maran Gas Maritime provided presentations. In Hamburg, the Verband Deutscher Reeder (VDR) (German Shipowners' Association) discussed regulations impacting the shipping community.

Time was also allotted to respond directly to questions from participants. The question and answer sessions covered many areas. The purpose of this document is to provide participants written documentation of questions answered and address questions that could not be answered due to time constraints. The primary goal of addressing concerns raised by vessel owners and operators was achieved.

The feedback from attendees was very positive. Attendees commented that the information was relevant and timely and will help shipowners ensure vessels are operating in compliance in US waters.

2. The Seminars

As previously stated, the seminars were held in three locations with over 400 attendees from 250 companies. The seminar agendas in each location were the same with some adjustments to account for time constraints. The general seminar agenda was:

Welcome & Introduction – Local ABS management

ABS Asset Performance Management Overview – Mr. Howard Fireman, ABS, Senior Vice President, Asset Performance Management

USCG Ballast Water Management Regulations – CDR Ryan Allain, USCG Washington, DC, Chief, Environmental Standards Division

2013 VGP – Mr. Marcus Zobrist, US EPA Washington, DC, Chief, Industrial Branch

Air Emission Concerns & Compliance Strategies – Mr. Stamatis Fradelos, ABS, Principal Engineer, Environmental Performance

BWM Convention Adoption Trends & Considerations – Ms. Debra DiCianna, ABS, Senior Environmental Solutions Consultant, Environmental Performance

ABS management and guest speakers for each location are listed below:

Athens – 2 December 2014 – Over 150 Attendees

ABS Management & Introduction:	Mr. Vassilios Kroustallis, ABS Regional Vice President
Guest Presentations:	2013 VGP – EAL Lubricants - MARTECMA Presentation – Mr. Stavros Hatzigrigoris, Maran Gas Maritime
	Compliance with the North America ECA Emissions Regulations: *A "Realistic" Approach* – Mr. Spyros Gertsos, Maran Gas Maritime

Genève – 4 December 2014 – Approximately 20 Attendees

ABS Management & Introduction:	Mr. Paolo Puccio, Country Manager

Hamburg – 5 December 2014 – Over 150 Attendees

ABS Management & Introduction:	Mr. Dietrich Dabels, ABS Europe Ltd., Regional TBD
Guest Speaker:	Mr. Wolfgang Hintzsche, VDR - German Shipowners' Association

Section 4 contains a list of the companies that participated in each of the seminars.

3. Questions & Answers

During the seminars, participants submitted questions to be answered. Due to time constraints, all questions could not be properly addressed. ABS worked with EPA and USCG to develop answers to questions asked. Similar questions were grouped to provide a concise answer. The following are responses to the questions asked during the seminars. Questions are grouped by subject.

General Questions

1. Are the US Coast Guard (USCG) and EPA under the same government department and are the origins the same?

   No. The USCG official history began in 1790 to enforce federal tariff and trade laws and to prevent smuggling. Through the years, USCG changed names, focus and government departments where it resided. After 11 September 2001, the USCG became part of the US Department of Homeland Security. The US EPA originated in 1970 from various programs at other governmental departments to address increased environmental issues within the US.

2. The creation of policies by two agencies makes it difficult for shipowners. Why are separate policies created?

   In the US, federal laws authorize specific agencies to develop specific regulations or permits. For example, the National Invasive Species Act (NISA) gave the USCG authority to develop ballast water management regulations, while the Clean Water Act required the EPA to address discharges from ships into US waters.

3. What action does the USCG take against whistleblowers proven not to be reliable?

   The USCG does not bring environmental crimes cases forward based solely on the assertions of a whistleblower. Corroborating information or evidence is always used. As such, information from a whistleblower is not the only source and action cannot be taken on a whistleblower that deliberately misled the government.

Ballast Water Management (BWM) – General

1. For vessels not discharging ballast water, is the approximate percent of time the vessel is in US waters taken into account?

   The percent of time operating in US waters is not taken into account for compliance with BWM requirements. If a vessel does not discharge ballast water in US waters (i.e., 12 nm USCG requirements, 3 nm VGP requirements), the vessel is in compliance with USCG discharge standards and VGP BWM requirements. The vessel also does not need to report BWM practices in VGP reporting.

2. Are shore facilities available for discharging ballast water in the US?

   At this time, no permitted onshore ballast water treatment facilities exist. A facility exists in Alaska for the treatment of dirty ballast water from tankers. The State of California is conducting a study on the feasibility of an onshore ballast water treatment system.

3. Does the USCG have any approved ballast water exchange (BWE) protocols?

   USCG identifies BWE as "replace the water in a ballast tank using one of the following methods":

   (1) Flow-through exchange means to flush out ballast water by pumping in mid-ocean water at the bottom of the tank and continuously overflowing the tank from the top until three full volumes of water have been changed to minimize the number of original organisms remaining in the tank.

   (2) Empty/refill exchange means to pump out the ballast water taken on in ports, estuarine, or territorial waters until the pump(s) lose suction, then refilling the ballast tank(s) with mid-ocean water.

   The ballast water exchange requirements are published in the US Code of Federal Regulations, Title 33 (33 CFR § 151.1510(a)(1)) for vessels operating in the Great Lakes and Hudson River as:

   "Carry out an exchange of ballast water on the waters beyond the Exclusive Economic Zone (EEZ), from an area more than 200 nautical miles from any shore, and in waters more than 2,000 meters (6,560 feet, 1,093 fathoms) deep, such that, at the conclusion of the exchange, any tank from which ballast water will be discharged contains water with a minimum salinity level of 30 parts per thousand, unless the vessel is required to employ an approved ballast water management system (BWMS) per the schedule in §151.1512(b) of this subpart. This exchange must occur prior to entry into the Snell Lock at Massena, NY, or navigating on the Hudson River, north of the George Washington Bridge."

The ballast water exchange requirements are published in the US Code of Federal Regulations, Title 33, (33 CFR § 151.2025(a)(3)) for vessels operating in other waters of the US as:

"Perform complete ballast water exchange in an area 200 nautical miles from any shore prior to discharging ballast water, unless the vessel is required to employ an approved BWMS per the schedule found in §151.2035(b) of this subpart."

4. Please elaborate about the "living organisms" requirements in the USCG ballast water regulation vs. the BWM Convention.

   The USCG ballast water discharge standards (BWDS) state "living organisms" in the discharge limits for organisms greater than or equal to 50 micrometers in minimum dimension and for organisms less than 50 micrometers and greater than or equal to 10 micrometers. The BWM Convention Regulation D-2 states "viable organisms" for the ballast water performance standards, but Resolution MEPC.174(58) "*Guidelines for Approval of Ballast Water Management Systems (G8)*" defines "viable organisms" as "organisms and any life stages thereof that are living".

5. How will the USCG react if a BWMS receiving USCG type approveal cannot deliver the BWMS in a reasonable time?

   If vendors of USCG type approved BWMS cannot supply a BWMS in the time required for a vessel's compliance, the shipowner will need to document the supply issue with a statement from the vendor and request an extension to their USCG compliance date. The shipowner will need to propose an alternative compliance date with documentation (i.e., estimated date for receipt of BWMS, shipyard availability) supporting the request.

6. Is the USCG considering amending the USCG Ballast Water Management Rules with the aim of grandfathering Alternate Management Systems (AMS) that have been installed on board vessels?

   The USCG ballast water regulation does not include a provision to grandfather vessels that have installed an AMS prior to their compliance date. The USCG urges shipowners to discuss with vendors their plans for USCG type approval and means for upgrading BWMS once USCG type approval has been received.

7. How many onshore facilities for treatment of ballast water exist? And what is the estimated cost for treatment?

   At this time, no facility for onshore treatment of ballast water exists in the US. Therefore, no costs can be estimated.

8. What is the cost for water from a public water supply?

   The cost of US public water supply varies by location. The EPA estimates that tap water costs, on average, are slightly more than $2 per 1,000 gallons.

9. Is Ultraviolet (UV) technology acceptable as a BWMS by the USCG?

   The USCG does not have a preference of treatment technologies. All technologies need to achieve the BWDS in the USCG ballast water regulations by testing under the Environmental Technology Verification (ETV) protocol USCG BWDS state "living" organisms. UV technology, like other technologies, need to achieve the standards as defined in the USCG ballast water regulation.

10. Is it possible to operate in a US waters with a BWMS not approved for use in freshwater?

    Vessels need to operate a BWMS according to the USCG type approval certificate and/or AMS acceptance letter. If the AMS acceptance does not permit the use of the BWMS in freshwater, the operator cannot discharge treated freshwater. The shipowner would need to use BWE, if applicable, or request an extension from the USCG until the limitation is removed. Please note that none of the currently published AMS acceptance letters with salinity limitations permit the use of an alternative salinity source for treatment of ballast water.

BWM – Deadlines & Compliance

1. What is the definition of "next scheduled drydocking"?

   The USCG defines drydocking as "hauling out of a vessel or placing a vessel in a drydock or slipway for an examination of all accessible parts of the vessel's underwater body and all through-hull fittings". The USCG definition is not related to any specific survey.

2. A vessel with ballast water capacity greater than 5000 m^3 moves a drydocking from early 2016 to late 2015. The vessel's next scheduled drydocking and USCG BWDS compliance would be in late 2020. Is this acceptable to the USCG?

   The USCG has no issues with movement of drydocking. The shipowner should consult with its classification society to understand the ramifications of the drydocking movement and applicable surveys.

3. Are BWMS to be installed during drydocking of the vessel?

   Vessel location for installation of a BWMS is at the discretion of the shipowner. BWMS can be installed during drydockings or while a vessel is underway. The vessel is required to be in compliance with the USCG BWDS upon completion of their first scheduled drydocking according to the USCG compliance schedule.

4. Is a vessel in compliance with US ballast water requirements if the BWMS is only used when discharging in US waters?

   Depending on the vessel's compliance date, a vessel is required to use any of the identified BWM options to discharge ballast water in US waters. The US does not have jurisdiction over international waters. Please note that continued use of a BWMS is recommended to ensure organisms do not continue to grow in ship piping, tanks and sediment. Growth of organisms in piping, tanks and sediment may make it difficult for a vessel to be in compliance with BWDS.

5. If a vessel has the drydocking scheduled for 2016 but plans to take the ship out of service in the near future, is this grounds for an exemption?

   No, the USCG is not granting vessel-specific exemptions due to future vessel plans. The shipowner may request an extension to compliance with BWDS stating that the vessel is to be taken out of service and provide the estimated date. The USCG will determine if an extension should be granted. Please note that if the vessel is granted a USCG extension and the vessel is not taken out of service as estimated, further extensions may not be granted.

6. Prior to the specific compliance date, can vessels discharge ballast water without a USCG type approved BWMS?

   The vessel needs to be in compliance with all other aspects of the USCG BWM regulation, such as the general BWM requirements (i.e., BWE), recordkeeping and reporting provisions.

7. What are the organism requirements after ballast water treatment?

According to the USCG ballast water regulations, vessels are required to achieve the following BWDS:

(1) For organisms greater than or equal to 50 micrometers in minimum dimension: discharge must include fewer than 10 living organisms per cubic meter of ballast water.

(2) For organisms less than 50 micrometers and greater than or equal to 10 micrometers: discharge must include fewer than 10 living organisms per milliliter (mL) of ballast water.

(3) Indicator microorganisms must not exceed:

(i) For Toxicogenic *Vibrio cholerae* (serotypes O1 and O139): a concentration of less than 1 colony forming unit (cfu) per 100 mL.

(ii) For *Escherichia coli*: a concentration of fewer than 250 cfu per 100 mL.

(iii) For intestinal enterococci: a concentration of fewer than 100 cfu per 100 mL.

The EPA VGP also requires BWMS with active substances to achieve the following Maximum Ballast Water Effluent Limits for Residual Biocides:

Biocide or Residual	Limit (Instantaneous Maximum)
Chlorine Dioxide	200 µg/l
Chlorine (Total Residual Oxidants (TRO as TRC))	100 µg/l
Ozone (Total Residual Oxidants (TRO as TRC))	100 µg/l
Peracetic Acid	500 µg/l
Hydrogen Peroxide (for systems using Peracetic Acid)	1,000 µg/l

Any other biocides or derivatives may not exceed acute water quality criteria listed in EPA's 2009 *National Recommended Water Quality Criteria*, and any subsequent revision, at the point of ballast water discharge.

8. What is the ballast water sampling method? Is the procedure approved by USCG and IMO?

USCG has not approved ballast water sampling methods for compliance monitoring of BWMS. The ETV Protocol listed in the USCG BWM regulation includes methods for testing BWMS.

The *EPA Vessel Discharge Sample Collection & Analytical Monitoring: A How-To Reference for EPA's 2013 Vessel General Permit (VGP) (September 2014)* provides vessel owners/operators with tips and tools for meeting the sample collection and analysis monitoring requirements in the 2013 VGP.

BWM – USCG Extensions

1. Will EPA accept USCG extensions?

   EPA issued an enforcement response policy regarding the ballast water discharge requirements in the VGP. EPA is aware that the USCG has received requests for extensions of the compliance dates for USCG's ballast water requirements. EPA worked with the USCG to develop a coordinated response. The EPA has identified vessels with a USCG extension and properly following all other requirements as a "low enforcement priority".

2. The USCG has published many approved extensions to compliance with USCG BWDS. Has a policy been published for the process of awarding extensions and the terms included?

   The USCG has not published any policy on the process for granting extensions. Initial extensions have been granted in a similar manner. USCG reviews extension requests based on the vessel's compliance date to ensure a consistent response.

3. When should a vessel submit an extension letter?

   Letters requesting an extension to the USCG compliance dates are due one year prior to the vessel-specific compliance date.

4. What is the valid term for a USCG extension to BWDS?

   Shipowners may request up to five years for an extension. The USCG letter granting the extension of compliance date with ballast water management requirements lists the specific extended compliance date. At this time, all extensions have been granted to a firm date of 1 January 2016 or 1 January 2017. Vessels may ask for an additional extension request if sufficient grounds (i.e., lack of USCG type approved BWMS) exist.

5. If a shipowner has an extension but no USCG type approved BWMS has been awarded, when does the shipowner need to request an additional extension?

   The additional extension request should be submitted one year prior to the current extension date.

6. Is a vessel required to have an AMS installed to receive an extension?

   No, a vessel is not required to install a USCG-accepted AMS to receive an extension.

7. A vessel constructed after 1 December 2013 was equipped with an AMS. Can an extension for compliance with USCG BWDS be granted?

   A vessel needs to submit an extension request one year prior to its compliance date. In this case, an extension request should be submitted one year before vessel delivery or prior to operating in US waters. A vessel equipped with an AMS may request an extension. Please note that experience with operating the installed AMS may be beneficial to the shipowner.

8. Can a shipowner request an extension if the BWMS receiving USCG type approval cannot be installed on the vessel for technical reasons?

   Yes, the shipowner would need to document the technical reasons that the USCG type approved BWMS cannot be installed or used on the vessel.

9. Is it possible to request BWM exemptions for newbuildings?

   The USCG does not issue "exemptions" to the ballast water management regulations, but an "extension" may be requested one year prior to ship delivery or operation in US waters.

10. What will be the BWMS installation date for a newbuilding in which a USCG extension has been granted?

    The date of BWMS installation is dependent on various factors, including, but not limited to, ship's extended compliance date, date of applicable USCG type approved BWMS availability and ship's operation. If a USCG type approved BWMS is not available at the time the initial extension expires, the shipowner will need to request an additional extension with justification.

11. What kind of documentation is valid to request an extension?

    Initially, no documentation is needed due to the public knowledge that no USCG type approved BWMS has been identified. When USCG type approved BWMS become available, shipowners will need to document the technical reason that existing USCG type approved BWMS cannot be installed on their vessel, vendor statements of insufficient model capacity, lack of drydocking space and any other technical reason that installation cannot occur.

12. Has any extension request been denied? If so, why?

    No extensions have been denied at this time due to the lack of a USCG type approved BWMS. Extension requests for vessels with drydock dates after 2015 are not being acted upon at this time, but are filed for future consideration and action by the USCG.

USCG – BWMS Type Approvals

1. What is the status of USCG BWMS type approval applications?

   The USCG type approval process is confidential. The USCG may not be informed of a BWMS undergoing type approval testing until testing is completed by the independent laboratory (IL) and ready for USCG review and approval. At this time of this publication, Trojan Technologies has announced that testing of the Trojan Marinex™ BWT System has been completed and that USCG review and approval has been requested. The USCG is aware that other testing is underway at the ILs.

2. How many BWMS vendors submitted a letter of intent (LOI) for USCG type approval testing?

   As of January 2015, 15 BWMS have submitted LOIs.

3. How much time is needed for USCG type approval?

   USCG type approval requires various steps: evaluation of existing data and new testing by an IL, generation of reports and evaluation by the USCG Marine Safety Center (MSC). The amount of time varies based on existing data that may be used and the time required to complete all testing components. USCG estimates that 12 to 18 months is required to achieve USCG type approval, if no existing data is available for use.

4. When does the USCG estimate the first USCG type approved BWMS will be announced?

   The USCG estimates that a USCG type approved BWMS will be announced by the end of 2015, but this depends on BWMS vendor and IL work.

5. Has any BWMS failed USCG type approval testing?

   The USCG cannot comment on the progress of USCG testing because it is confidential.

6. What is the USCG commitment with BWMS approval (i.e., units per year, units per technology per year)?

   The USCG has no limits on the number of BWMS receiving USCG type approval.

7. How many laboratories have been approved for USCG type approval of BWMS?

   As of March 2015, three ILs have been identified – NSF International, DNV-GL and the Korean Register of Shipping. Each IL has various sub-laboratories approved for the testing required. The USCG is reviewing additional applications to be added as an IL but is not permitted to share names of laboratories under review. Updated lists of USCG BWMS testing ILs can be found at the Coast Guard Maritime Information Exchange (CGMIX) website http://cgmix.uscg.mil. Select "USCG Independent Labs" and then "EQLabs Search". Then select "Ballast Water Management System 162.060" from the "Approval Series Name" dropdown menu.

8. Are USCG type approved BWMS approved for use in all US states?

   USCG type approved BWMS are approved for use in US waters. US states may impose additional requirements based on specific state regulations.

9. USCG statements of vendor testing differ from vendor statements. How can shipowners verify vendor statements?

   Shipowners should request a copy of the vendor contract with the IL or ask the vendor to provide written verification from the IL.

10. Is stringency of the USCG type approval procedure in comparison to the BWM Convention G8 guidelines the reason for the lack of USCG type approved BWMS?

    The USCG ETV Protocol is more specific and prescriptive than the guidelines developed for the IMO BWM Convention. Various reasons may account for the lack of USCG type approved BWMS. The differences between the ETV Protocol and the G8 Guidelines necessitated new testing for most BWMS. Testing requires approximately 18 months to two years. Many BWMS have also been modifying systems prior to USCG type approval testing.

11. Are shipowners forced to install a BWMS if a BWMS has not received USCG type approval?

    No, shipowners are not forced to install a BWMS that has not received USCG type approval. The shipowner may submit an extension request to the USCG. Lack of USCG type approved BWMS is a sufficient reason for the USCG to grant an extension to the vessel's compliance date.

12. If the USCG announces the type approval of only one BWMS, this will dominate the market and create a monopoly. What is the USCG position on this issue?

    The USCG cannot hold announcement of any type approved equipment. Insufficient models and systems are a sufficient reason for a USCG extension request.

13. Has the AMS use for five years been changed?

    The USCG limits the use of an AMS to five years from the vessel's specific compliance date. The USCG does not plan on changing this requirement. Depending on the date of AMS installation and the vessel's compliance date, an AMS may be used for greater than five years. For example, a vessel with ballast water capacity greater than 5000 m^3 installs an AMS in 2014. If the vessel's first scheduled drydocking is in October 2018, the AMS may be used for five years from October 2018 – i.e., October 2023. Thus, the vessel would be able to use the AMS for nine years.

14. What can a shipowner do if the first USCG type approved BWMS is announced too close to the vessel's drydocking date?

    Shipowners need to request extensions at least one year prior to the vessel drydocking date. The USCG extension approval letter will state a specific extended compliance date. If an applicable USCG type approved BWMS is not announced one year prior to the extended compliance date, the shipowner needs to submit an additional extension request documenting the lack of applicable type approved BWMS. If one year is insufficient for designing, purchasing and installing the BWMS, the shipowner needs to document the time required in the extension request.

15. Will USCG type approval be granted to a BWMS that can be used for all operating conditions?

    BWMS vendors will identify the operating conditions when contracting with the IL for USCG type approval testing. The USCG type approval will cover the operating conditions for which the BWMS was tested.

16. How will the USCG deal with BWMS shortages and lack of drydocking space for installations?

    If a shipowner cannot purchase and install a BWMS in the time allotted, the shipowner will need to request an extension for compliance from the USCG and document the problems for purchasing and installation.

17. Would the USCG consider grandfathering vessels with an AMS if ballast water exchange is continued?

    USCG ballast water management requirements do not contain a provision for grandfathering vessels.

18. Could a BWMS accepted as an AMS not obtain USCG type approval?

    USCG AMS acceptance does not guarantee USCG type approval. Initial testing of BWMS varies in requirements. Shipowners should discuss with BWMS vendors their progress in USCG type approval testing.

USCG – General Questions

1. For vessels coming to the US from Canada, will the USCG inspections cover compliance with requirements in Canadian waters?

   No, the USCG inspects vessels for compliance with US requirements and is not authorized to inspect for compliance with Canadian regulations.

Vessel General Permit (VGP) – General Information

1. What is required to request an exemption for VGP requirements?

   The VGP does not contain any conditions for exemptions from its requirements. With respect to ballast water requirements, EPA issued an enforcement response policy regarding the ballast water discharge requirements in the VGP. EPA is aware that the USCG has received requests for extensions of the compliance dates for USCG's ballast water requirements. EPA worked with the USCG to develop a coordinated response. The EPA has identified vessels with a USCG extension and properly following all other requirements as a "low enforcement priority".

2. Is a vessel required to keep on board the 2008 Notice of Intent (NOI), the 2008 one-time report, the 2013 NOI and 2013 VGP Annual Reports?

   Vessels are required to keep documentation on board for three years. As of December 2014, 2008 VGP documentation is only required for the period from December 2011 through 18 December 2013. Note, the VGP's recordkeeping provisions allow for owners/operators to use electronic recordkeeping systems to meet the requirements that "written" records be kept "on the vessel," if those records satisfy the requirements in Part 4.2 of the VGP.

3. Should an Annual Report be submitted for vessels enrolled but not calling on a US port?

   An Annual Report submission would still be required. One of the first questions in the Annual Report is "Did your vessel operate in waters subject to this permit during the previous calendar year?". For vessels answering "No" to this question, completion of the remainder of the Annual Report is voluntary. The only remaining portion is certification of the report.

VGP – Discharge Specific Questions

1. Do the exhaust gas scrubber washwater requirements apply to marine engines and inert gas scrubbers?

   No, the exhaust gas scrubber washwater requirements only apply to the effluent from exhaust gas cleaning systems associated with marine engines.

2. Exhaust gas scrubbers may have residues and cleaning water discharged into the sea. Is this acceptable under VGP?

   VGP requirements for residues or cleaning water discharged from exhaust gas scrubbers are covered under the exhaust gas scrubber washwater discharge.

3. A vessel's graywater tank appears to be full. What actions are required to avoid non-compliance with VGP requirements?

   For the general requirements (i.e., not vessel type specific), the VGP only states that vessels must minimize the discharge of graywater in port. The VGP requirement to discharge graywater greater than 1 nm from shore takes into account vessel holding capacity. If the graywater tank is full, discharge may occur.

4. Do any graywater discharge prohibitions exist by the USCG and EPA in US ports for ships not equipped with a graywater holding tank?

   The USCG and EPA do not have any prohibitions on the discharge of graywater from ships. Individual states may have specific requirements.

VGP – Oil-to-Sea Interfaces

1. What is the legal definition of "oil-to-sea interface"?

   The EPA VGP Frequent Asked Questions (FAQs) define "oil-to-sea interface" as:

   "Oil-to-sea interfaces include any mechanical or other equipment on board a vessel where seals or surfaces may release quantities of oil and are subject to immersion in water. The VGP specifically identifies several types of equipment that have the potential for lubrication discharges from oil-to-sea interface, including:

   - Controllable Pitch Propeller
   - Thrusters
   - Paddle Wheel Propulsion
   - Stern Tubes
   - Thruster Bearings
   - Stabilizers
   - Rudder Bearings
   - Azimuth Thrusters
   - Propulsion Pod Lubrication
   - Wire Rope
   - Mechanical equipment subject to immersion (e.g., dredges, grabs, etc)

   In addition, there may be other types of equipment that could be considered an oil-to-sea interface that were not specifically mentioned in the VGP.

   EPA does not consider on-deck equipment that comes into contact with rain, splashed with waves, wave-generated spray or subject to icing to be a form of immersion, and therefore, not an oil-to-sea interface. Vessel operators are not required to use environmentally acceptable lubricants (EALs) in on-deck machinery that is not subject to immersion. However, discharges from deck machinery are subject to other discharge requirements, such as those for Deck Washdown and Runoff (Section 2.2.1 of the VGP), which recommends the use of EALs."

   EPA FAQs can be found at http://water.epa.gov/polwaste/npdes/vessels/Vessels-FAQs.cfm.

2. Do the oil-to-sea interfaces include lifeboat engines?

   If the lifeboats are under 79 feet in length, then the moratorium on permitting vessels less than 79 feet would apply and oil-to-sea interface requirements are not applicable. The moratorium has recently been extended to December 2017.

   If the lifeboat is greater than 79 feet in length, the VGP requirements would apply, but in Part 1.15 of the VGP, EPA notes that vessel masters have the responsibility to ensure the safety and stability of the vessel and the safety of the crew and passengers, and nothing in this permit is intended to interfere with their fulfillment of that responsibility.

So, if the lifeboat was used during an emergency situation where they were unable to use an EAL for the motor, the VGP would not prevent you from using that equipment, however the shipowner would need to report the use of that non-EAL on their Annual Report.

3. **Are alternative seal systems (e.g., air seals, seals with four sealing rings or void space double seals) required to use EALs?**

   Consistent with EPA's presentation by Dr. Ryan Albert's participation at the 2015 Green Ship Technology conference session held in Copenhagen, Denmark on March 12th, EPA stated that the requirement to use an EAL depends on whether, with the installation of an alternative seal design, the stern tube or other equipment ceases being an oil-to-sea interface. A typical air seal or void space seal functions by having at least two independent sealing systems: one on the side of the seal facing oil, and one on the side of the seal facing water. An air chamber or void space in between these two seals creates a controlled "buffer zone" where any oil, lubricants or water is collected for reuse or treatment. These seal designs, when properly maintained and operated, may completely eliminate oil drips or leaks into surrounding waters.

   EPA has stated that a stern tube seal using an alternative design that can fully eliminate the oily discharge would be like a seawater lubricated stern tube in terms of having no potential for oily discharge, and use of an EAL would not be required. EPA will not be providing any approvals or endorsement that an alternative seal system would eliminate the discharge.

   ABS has stressed to shipowners and operators the implication of a vessel using non-EALs in an "air seal" or other interface when a leakage or other type of discharge of oil occurs. Owners should note that they are proceeding at their own risk when using an alternate seal arrangement without using an EAL. If a spill occurs, they could be at risk for violating the VGP in two areas – 1) discharging oil to waters of the US and 2) failure to use an EAL.

   The discharge of a non-EAL lubricant must be documented as noncompliance of the VGP consistent with the Recordkeeping requirements in Part 4.2 – item 3 of the VGP and reported as such in the Annual Report.

4. **A vessel did not change to an EAL because the vessel was not scheduled to travel to the US or the vessel was to transfer to a new owner, but plans for the vessel changed without sufficient time to change to an EAL in the oil-to-sea interfaces. How is the vessel to report this in the Annual Report?**

   In the Annual Report question - "Did your vessel use environmentally acceptable lubricants for oil-to-sea interfaces?" reply "No" and state why. The report should state that insufficient time existed to change to an EAL after notification of voyage to the US. Please note that this answer may be insufficient in subsequent years. The vessel should change to the EAL as soon as technically feasible after the initial voyage.

5. If the change to an EAL has not occurred, can an exemption or waiver be granted?

   EPA is not granting exemptions or waivers for EAL requirements. If the change to an EAL is technically infeasible, the Annual Report needs to state the reason for technical infeasibility. Please note that failure to change to an EAL without justification is a violation of the VGP.

6. If a shipowner purchased a vessel without change to EALs occurring in oil-to-sea interfaces, it is possible to call on US ports?

   The vessel may still call on US ports, but the new owner needs to change to EALs as soon as technically possible.

7. Overheating of stern tubes operating with EALs has been reported. Please comment on the issue.

   Some instances of stern tube overheating with use of EALs have been reported. Investigations by vendors, classification societies and other parties have not determined that use of the EAL was the cause for overheating. In most cases, it is EPA's understanding that the overheating occurred on newly designed vessels for which the stern tube alignment procedure may need to be reassessed.

VGP – Reporting & Inspections

1. The VGP states that routine visual inspections must be conducted once per week, or per voyage, whichever is more frequent. What routine inspections should be made if the vessel is not within the 3 nm limits of the US coast?

   The VGP requires the once per week or per voyage inspections. If a vessel is unsure if it will operate in US waters, EPA recommends conducting a visual inspection prior to leaving for the voyage and then commencing routine visual inspections once the vessel knows it will operate in US waters. If the vessel does not transit within 3 nm of the US coast, inspections are not required.

2. If a vessel will not call on a US port during the applicable year, can the Annual Report be submitted early?

   Yes, Annual Reports may be submitted as soon as operations in US waters have been completed.

VGP – Sampling & Monitoring

1. Is monitoring required (i.e., graywater, bilgewater, etc.) even if the vessel is not trading in US waters all year, but only calls temporarily on US ports?

   Yes, monitoring is required if any of the discharges occur in US waters – regardless of the frequency.

2. What is the cost of sampling?

   Sampling costs are determined by the lab conducting the tests. EPA does not have data on estimated costs.

3. Is sampling only required for operation in US waters?

   Yes, sampling is only required if the discharge occurs in US waters. If a vessel is operating in US waters but the discharge does not occur, sampling is not required.

4. If sampling is required for a specific discharge, when are samples required to be collected in US waters? And where is analysis required to occur?

   Sampling may occur at any time convenient to the ship operation. Analysis may also occur at any location and does not need to be conducted by an approved lab, but all monitoring does need to be conducted using an EPA-approved method or a method specifically referenced in the permit. EPA has developed the document: *Vessel Discharge Sample Collection & Analytical Monitoring: A How-To Reference for EPA's 2013 Vessel General Permit (VGP) (September 2014).* The purpose of this document is to provide vessel owners/operators with tips and tools for meeting the sample collection and analysis monitoring requirements in the 2013 VGP.

5. The VGP requires different frequency of sampling and monitoring for BWMS for which high quality data is not available. Does this mean a ship can use a BWMS that has not received USCG type approval?

   Vessels operating in US waters are required to use USCG type approved or AMS accepted BWMS. All of these BWMS have high quality data available and would not be required to conduct the additional sampling and monitoring. EPA included the requirements for BWMS for which high quality data is not available to address any ships that may be using a prototype BWMS.

6. Are graywater sampling and monitoring requirements applicable to all vessels?

   No. Part 2.2.15.2 of the 2013 VGP specifies that newbuild vessels constructed on or after 19 December, 2013, with a maximum crew capacity greater than or equal to 15 and providing overnight accommodations to crew who are required to collect samples of graywater discharge for analysis. Large and medium cruise ships discharging graywater to waters subject to this permit have additional graywater monitoring requirements. Parts 5.1.2 and 5.2.2 of the VGP contain the graywater monitoring requirements for large and medium cruise ships, respectively. Additionally, vessels operating on the Great Lakes that are not "commercial vessels" that discharge graywater are also required to monitor that graywater, as described in Part 2.2.15.1 of the VGP.

Air Emissions – General

1. Scrubbers and other emission control devices increase fuel consumption. What are the benefits of the exhaust emission control equipment?

   The EPA has documented the health issues relate to exhaust emissions. The purpose of the air emission requirement is to reduce emissions and improve public health in the North American and US Caribbean ECAs. This is a health-based initiative that will have positive long-term impacts on port environments and the communities who live and work in ports and adjacent areas.

   The USCG states that "The purpose of [MARPOL Annex VI] Regulation 3 is to promote the development of emission reduction and control technologies as well as engine design programs. In some cases, the development of new technology may be the most practical way for a vessel to comply with Annex VI. Further, where a ship is unable to burn low sulfur fuel or routinely travels into an ECA from places where low sulfur fuel is not available, scrubbers enable the vessel to reduce emissions in order to ensure compliance."

2. Will the USCG have an exhaust gas scrubber type approval program?

   The USCG will not type approve exhaust gas scrubbers.

3. How will the USCG confirm the correct operation of the systems on the vessels calling the US?

   The USCG will be inspecting vessels for compliance with all Annex VI regulations, including conformance with Regulation 3 permits. The USCG marine inspectors and/or Port State Control officers will examine the system and confirm correct operation by following the procedures included in the exhaust gas cleaning system technical manual.

Air Emissions – Low Sulfur Fuel

1. Is heavy fuel oil (HFO) available in the US?

   Yes, HFO is available in the US.

2. What are the procedures in case a vessel receives low sulfur marine gas oil (LSMGO) prior to arrival in US but the analysis shows that the sulfur content is greater than 0.1%?

   Vessels that are unable to source compliant fuel prior to entering the North American ECA are required to report this to the EPA and authorities at the relevant port of destination, using the EPA's Fuel Oil Non-Availability Report (FONAR). Those wishing to submit FONARs to the EPA must request an electronic FONAR form through the electronic Fuel Oil Non-Availability Disclosure (FOND) portal and must submit completed FONARs through this same electronic portal. The EPA has issued instructions on how to register with and use the FOND portal to submit a FONAR to disclose potential violations of the North American ECA under MARPOL Annex VI, Regulation 18. The FOND portal is located at: https://cdx.epa.gov/.

   The USCG may investigate the deficiency, including review of the bunker delivery notes and the vessel's MARPOL sampling procedure. Upon completion of an investigation, the USCG may take no action, pursue an enforcement option or may refer the matter to the EPA. In addition to enforcement options, the USCG will also ensure the vessel has compliant fuel before departing.

   For deficiencies identified during a Port State Control exam, EPA may adjudicate civil penalties for noncompliance. EPA enforcement is particularly targeting ships that consistently fail to get low sulfur fuel oil (LSFO) or do not make best efforts to get LSFO and ships regularly detained by Coast Guard for substandard MARPOL Annex VI compliance.

3. A number of power loss incidents have been reported for the operation of the main engine on ultra-low sulfur marine gas oil (ULSMGO). Has the USCG investigated these incidents as far as the cause of failure? What were the findings?

   From 1 January, 2015 to 23 February, 2015, 21 possible fuel switching incidents were reported to the USCG. The use of ULSMGO was listed as a causal factor in only one of them.

4. As from 1 January 2015, will EPA/USCG enforce a sampling procedure on board for 0.1% LSFO compliance? Or they will focus only on examining documentation? If sampling is exercised, what position will be the standard of attaining the sample?

   The EPA or the USCG may conduct sampling during an inspection to determine the fuel oil sulfur content in addition to examining documentation. Currently, no uniform sampling procedure exists.

5. Which actions are required in cold areas for low sulfur fuel oil (LSFO) (under 0.1%) and for change-over procedures for the proper heating?

   The actions for change-over procedures must be developed by the engine manufacturer. In general, when mixing relatively cold distillate with hot heavy fuel during the change-over process, temperature and viscosity need careful monitoring such that:

   - The viscosity must not drop below 2 cSt and not exceed 20 cSt and
   - The rate of temperature change of the fuel inlet to the fuel pumps must not exceed 2 °C/min to protect the fuel equipment from thermal shock.

6. Since ECA zones are located in the Northern Hemisphere, why is the 0.1% sulfur regulation implemented during winter time and not late spring/early summer when weather is more favorable?

   Once in effect, implementation is year-round.

7. When checking fuel sulfur content, which document prevails – Bunker Delivery Note (BDN) or sample analysis?

   The BDN is one of the initial items examined, but sample analysis that significantly exceeds the values in the BDN is a strong indication that the fuel is noncompliant.

8. What is the worst impact for a vessel that trades in the ECA and has provided all required evidence that it could not comply? Detention? Banned from operation in the ECA?

   Impacts to vessels may vary depending on the situation. Vessels that cannot find compliant fuel may file a FONAR; however, vessel operators may still be subject to deficiencies, detention and enforcement actions. Vessels that do not attempt to comply may be detained and required to switch to compliant fuel. Further, the USCG and the EPA may pursue enforcement actions, including a civil penalty. A vessel with multiple detentions in a short time period may be banned.

9. Has ABS identified any issues with the new exhaust emission equipment or fuels?

   ABS has received limited reports regarding possible operational issues associated with new exhaust equipment and low sulfur fuels. Many questions have been asked about the performance of the new ECA low sulfur fuels that are currently offered by suppliers. These ECA low sulfur fuels are being tested by a number of shipping companies, which have reported no serious technical performance problems. The engine manufacturer must confirm that the proposed fuel can be satisfactorily burned in the engines or boilers without damage to the moving parts. Once this is confirmed, then, according to ABS Rules, class needs to witness the operation with the proposed fuel. Additionally, fuel purifiers must also be able to handle the proposed fuel grade.

10. New ECA low sulfur fuel products containing a maximum of 0.10% m/m sulfur are not covered by ISO 8217. What issues have arisen? What problems have been experienced?

    The USCG recommends vessel owners work closely with engine manufacturers to ensure a safe transition. These new ECA low sulfur fuels have not been categorized according to ISO 8217. However, the new ECA low sulfur fuels may still be ordered against the ISO 8217 as they are petroleum-derived products. Furthermore, before use on board, the ship operator should consult the engine manufacturer to ensure that the use of the ECA low sulfur fuels do not affect the engine warranty. Normally, suppliers will provide certification from the engine manufacturer regarding the fuels that can be used.

11. Who submits the Fuel Oil Non-Availability Report (FONAR) – the charterer or the owner?

    The shipowner is responsible for submittal of the FONAR but the charterer may be assigned the task per their contract.

12. Will the new ECA LSFO be accepted for use within California waters?

    California Air Resources Board (CARB) fuel regulations do not include provisions for the use of equivalent arrangements (i.e. scrubbers) or the use of low sulfur residual fuels. CARB regulations only permit the use of distillate fuels. However, the California Ocean-Going Vessel (OGV) Fuel Regulation includes a sunset provision that states that the requirements of the California OGV Fuel Regulation will cease to apply if the US adopts and enforces requirements that will achieve equivalent emissions reductions to the California OGV Fuel Regulation within Regulated California Waters. Ship operators can request an exemption and, therefore, use low sulfur residual fuels during the "sunset review period". The "sunset review period" will extend until completion of the study evaluating the emissions reductions achieved by the ECA Regulation in North America and comparing them to the emissions reductions achieved by the California OGV Fuel Regulation. CARB staff anticipates that this evaluation will be completed by April 2015. Further details can be found in CARB Marine Notice 2014-1 issued August 2014.

Other Questions

1. Is there any discharge prohibition in US ports for the effluent of an IMO-approved Sewage Treatment Plant?

   The US is not a party to MARPOL Annex IV (Regulations for the prevention of pollution by sewage from ships). Under US law, the discharge of sewage from ships to waters of the US is governed by the Clean Water Act. Various sewage No Discharge Zones (NDZ) have been declared under the Clean Water Act. In NDZs, discharge of sewage – treated or untreated – is prohibited. A list of NDZs by state is located at http://water.epa.gov/polwaste/vwd/vsdnozone.cfm.

2. What is the policy of the USCG concerning the Monitoring-Reporting-Verification of Carbon Dioxide (CO_2) emissions?

   The USCG Office of Commercial Vessel Compliance (CVC) does not have a policy regarding Monitoring-Reporting-Verification of carbon dioxide emissions.

3. Is there any UKC (Under Keel Clearance) requirement by the USCG when vessels navigate within US waters?

   No minimum under keel clearance requirement exists in the US. 33 CFR § 157.455 has requirements regarding minimum under keel clearances for tank vessels that are not fitted with a double bottom that covers the entire cargo block, but not a minimum under keel clearance. Different ports or places in the US may have specific minimum under keel clearances. Ships should always check with local port authorities when planning their voyages.

4. Seminar Participants

Athens (over 150 participants)

Archipelago Shipping S.A.
Argo Navis Ltd.
Arista Shipping
Atermon Marine Ltd
Atlas Maritime Ltd
Blossom Maritime Corp.
Bogdanos N. Marine Bureau Ltd.
British Bulkers Inc.
Chronos Shipping Co. Ltd.
Chartworld Shipping Corp.
Common Progress
Costamare Shipping Co. S.A.
Danaos Shipping Co Ltd
DCSI
Diana Shipping Services
Dynacom Tankers Management Ltd.
Dynagas Ltd.
Elkco Marine Consultants
ELNAVI
Empros Lines
Euronav Ship Management (Hellas) Ltd
Equinox Maritime Ltd.
Evalend Shipping Tankers Co. S.A.
Fairsky Shipping & Trading S.A.
Fomentos Armadora SA
GAINS Inc.
Gaslog Ing Services Ltd.
Halkidon Shipping Corp.
Helmepa
Independent Marine Consulting
Intership Maritime Inc.
J. Rigos
Kyla Shipping Co.
Laskaridis Shipping Co, Ltd
Liscr Hellas
Load Line Marine S.A.
Maran Gas Maritime Inc.
Maran Tankers Management Inc.
Marine Trust Ltd.
Marispond (Hellas) Inc.
Marshall Islands Registry
Medcare Shipping S.A.
Minerva Marine Inc.
Naftomar Shipping & Trading Co. Ltd.
Naviera Ulises Ltd.
NEWSFRONT NAFTILIAKI
N.G. Livanos Maritime Co.
NGM Energy S.A.
Nkator Navigation S.A.
Nomikos E. Corp. (SOUTHERN STEAMSHIP)
Nomikos A.M.
NTUA (University of Piraeus)
Oceangold Tankers Inc.
Oceanking
Omicron Ship Management Inc.
Optima Shipbrokers
Optimum
Polembros
Pegasus Maritime Ent. Inc.
Prevention at Sea
Prime Marine Management Inc.
Ranger Marine S.A.

Roxana Shipping S.A.
Roswell Tankers Corp.
Samartzis Maritime
Samos Steamship Co. S.A.
Sea Hawk Maritime S.A.
Sealestial Navigation Co
SQE Marine
Springfield
Seaworld Management
SIGTTO
Springfield Shipping Co. S.A.
Stealth Maritime Corporation
Streamlined Naval Architects
Teo Shipping Corp.
Thenamaris (Ships Management) Inc.
Total Shipmanagement Services
Tsakos Columbia
Union of Greek Shipowners
Vergos Marine Management S.A.
V. Ships Greece Ltd.

Genevé (approximately 20 participants)

ABS Maritime AG
Ocean Management GmbH
Seaflag
Suisse Atlantique SA
Bourbon Offshore
OMC
Panolin
Doris Maritime Services
Ocean Dependent Geneva
Consulting Transport & Logistic
LGR di Navigazione
Gestioni Armatoriali SpA
Saipem SPA
Tecno Fluid Service srl
E.C.O. Italia srl
Toro srl
D'Amamico Shipping Italia SpA
MDC Italia srl
Rexroth Bosch Group
Giuseppe Bottiglieri Shipping Company SpA

Hamburg (over 150 articipants)

Ahrenkiel Shipmanagement GmbH & Co. KG
Alfa Laval Mid Europe GmbH
Atlantic Lloyd
Auerbach Bereederung GmbH & Co. KG
Bernhard Schulte Shipmanagement (Deutschland) GmbH & Co. KG
Bertling ReedereiGmbH
Bockstiegel Maritime Service GmbH & Co. KG
Boll & Kirch Filterbau GmbH
Bremer Bereederungsgesellschaft mbH & Co. KG
Briese Schiffahrts GmbH & Co. KG
Bugsier-und Bergungsgesellschaft GmbH & Co. KG

Buss Shipping GmbH & Co. KG

Caterpillar Marine

Columbia Shipmanagement (Deutschland) GmbH

Columbus Shipmanagement GmbH

Concord Shipping GmbH & Co. KG

E.R. Schiffahrt GmbH & Cie. KG

Freese Shipping GmbH & Co. KG

GRS Rohden Shipping GmbH & Co. KG

Hammonia Reederei

Hansa Heavy Lift

Hansa International Maritime Journal

Hanseatic Lloyd Schiffahrt GmbH & Co. KG

Hapag-Lloyd AG

Harren & Partner Ship Management

Herm. Dauelsberg GmbH & Co. KG

Hermann Buss gmbH & Cie. KG

HMAC Huisman Maritime Consultancy

Interorient Marine Services (Germany) GmbH & Co. KG

IRI International Registries GmbH

John T. Essberger GmbH & Co. KG

Kalkavan Shipmanagement

Lebuhn & Puchta

Leonhardt & Blumberg

Liberty One Ship Management GmbH & Co.KG

Lubeca Marine (Germany) GmbH & Co. KG

MacGregor Finland Oy

MacGregor Germany GmbH

Marcare, Maritime Consulting and Research GmbH

MST - Mineralien Schiffahrt Spedition und Transport GmbH

Neptun Ship Design GmbH

Norddeutsche Reederei H. Schuldt GmbH & Co. KG

Nordic Hamburg Shipmanagement GmbH & Co. KG

NSB Niederelbe Schiffahrtsges. mbH & Co. KG

Oldendorff Carriers

Peter Doehle Schiffahrts KG

QSU-GmbH

Reederei Claus-Peter Offen (GmbH & Co.) KG

Reederei F. Laeisz GmbH

Reederei Harmstorf & Co. Thomas Meier-Hedde GmbH & Co. KG

Rigel Schiffahrts GmbH & Co. KG

RWO GmbH Marine Water Technology

SGS GermanyGmbH

TSC The Shipmanagement Company GmbH & Co. KG

United Seven GmbH & Co. KG

V. Ships

Vinnen & Co. (GmbH & Co. KG)

Wallem Europe GmbH & Co. KG

Wallem Shipmanagement GmbH & Co. KG

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