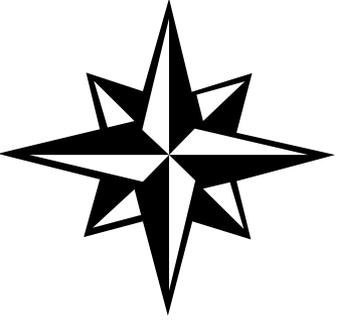


BALLAST WATER MANAGEMENT (BWM) IN THE UNITED STATES (US)

**Rear Admiral Robert C. North,
US Coast Guard (Ret.)
President, North Star Maritime, Inc.**



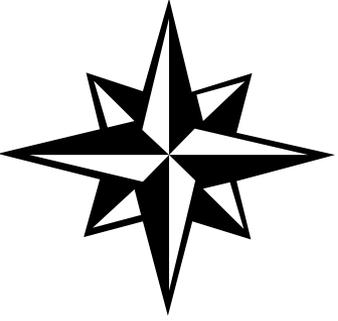


US BWM OVERVIEW



- US is not a party to the IMO BWM Convention 2004.
- While Convention ratification status has no direct impact, the US Coast Guard (USCG) and the Environmental Protection Agency (EPA) have adopted some aspects of the Convention.
- USCG and EPA, separate statutory authorities, require separate regulatory programs by law.
- USCG Final Rule published 23 March 2012 and effective 21 June 2012 is revision to existing BWM Rule that now includes treatment requirement.
- EPA Vessel General Permit (VGP) includes ballast water treatment provisions; effective 19 December 2013.
- USCG checks compliance for EPA VGP during routine Port State Control (PSC) examinations and notifies EPA of any non-compliance.



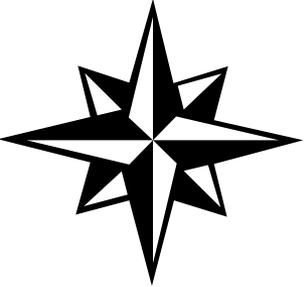


US BWM OVERVIEW

(continued)

- Both USCG and EPA have adopted BWM Convention D-2 standard but employ a more rigorous Environmental Technology Verification (ETV) testing protocol to determine if ballast water treatment systems (BWTS) meet D-2.
- Some BWTS type approved under the Convention G-8 and/or G-9 test protocol by other flag administrations may not meet ETV.
- USCG may accept, on an interim basis, some “Alternate Management Systems” (AMS) type approved to G-8 and/or G-9 by other flag administrations.
- USCG may extend BWTS installation date on a case-by-case basis.
- USCG FAQs are available as well as EPA VGP and Fact Sheet, to further explain requirements.



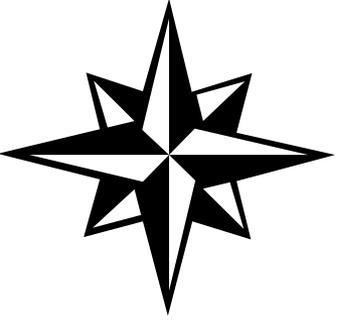


USCG AND EPA BWTS IMPLEMENTATION DATES

	Ballast Capacity	Date Constructed	Compliance Date
New vessels	All	On or after 1 DEC 2013	On delivery
Existing vessels	<1500 m ³	Before 1 DEC 2013	First <u>scheduled</u> drydocking after 1 JAN 2016 (1)
Existing vessels	1500 m ³ to 5000 m ³	Before 1 DEC 2013	First <u>scheduled</u> drydocking after 1 JAN 2014 (1)
Existing vessels	>5000 m ³	Before 1 DEC 2013	First <u>scheduled</u> drydocking after 1 JAN 2016 (1)

(1) Drydocking means placing a vessel in a drydock for an examination of all accessible parts of the vessel's underwater body.



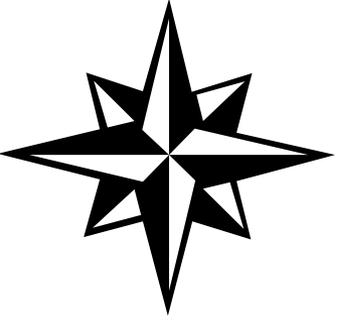


USCG BWM REGULATIONS

DEPARTMENT OF HOMELAND
SECURITY
Coast Guard
33 CFR Part 151
46 CFR Part 162
[Docket No. USCG-2001-10486]
RIN 1625-AA32
Standards for Living Organisms in
Ships' Ballast Water Discharged in
U.S. Waters
AGENCY: Coast Guard, DHS.
ACTION: Final rule.

- Application: All vessels, US and foreign, equipped with ballast tanks, that operate on the waters of the US up to 12 nautical (nm) miles offshore, with some exceptions such as foreign vessels in innocent passage and vessels operating exclusively in one Captain of the Port Zone.
- General requirements include BWM and reduction practices, record keeping, reporting, BWM Plan, and crew training.
- BWM choices include: US type approved BWTS to treat ballast water; use only water from a US public water supply; perform ballast water exchange more than 200 nm offshore unless required to install and operate a type approved BWTS; AMS; do not discharge ballast water; or discharge to a facility on shore.
- US type approved BWTS probably not available until early 2015.

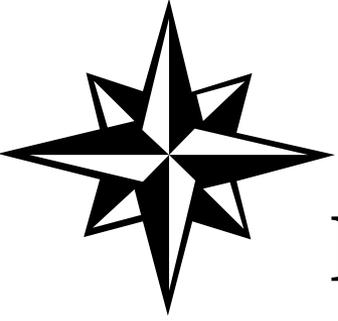




WHAT ARE THE PRACTICAL US BWM ALTERNATIVES?

- **AMS** installed before compliance date may be used up to 5 years after compliance date. Then must have become US type approved or must be removed and replaced by US type approved system.
 - 37 BWTS approved under IMO G-8 and/or G-9 Guidelines now designated AMS by the USCG. AMS designation letters describe limitations based upon G-8/G-9 test data. For example, only 4 approved for use with fresh water.
- **Time extension** on a ship-by-ship basis may be requested if no US type approved BWTS available that meets vessel requirements. About 100 extensions until 1 January 2016 granted to date for 1 January 2014 compliance trigger with extension letters available on USCG website. CG-OES Policy Letter 13-01 explains application process. But EPA not obligated to accept a time extension for VGP compliance.



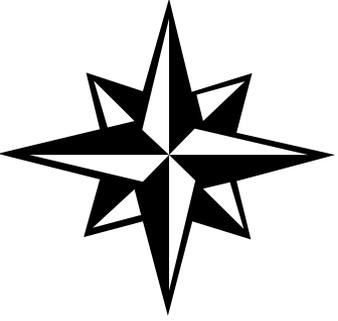


EPA VGP REQUIREMENTS



- Application: Vessels equal to or greater than 79' in length operating in US waters up to 3 nm offshore.
- VGP does not provide for BWTS type approval but requires use of a BWTS “shown to be effective” in meeting the standard through testing by an independent third party laboratory.
- USCG AMS and type approved systems are acceptable.
- Requires compliance with USCG regulations.
- Requires a Ballast Water Management Plan but recognizes compliance with USCG Plan requirements and indicates probably only one Plan required.
- Monitoring program with records for BWTS functionality, monitoring equipment calibration and effluent biological organisms.



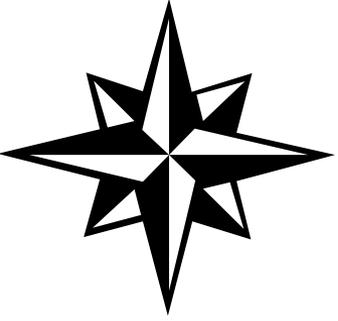


EPA VGP REQUIREMENTS



- VGP specifically states that EPA is not obligated to accept USCG time extensions and vessels discharging ballast not VGP compliant are in violation with VGP and the Clean Water Act and this must be reported as non-compliance on the VGP Annual Report.
- EPA has published an Enforcement Response Policy (ERP) that enforcement will be a low priority if the discharge is not “grossly excessive” or does not “present an imminent and substantial endangerment” and the vessel is otherwise VGP compliant.
- The ERP creates a situation where vessels will be knowingly violating the VGP and US Clean Water Act which may be contrary to charter and P&I agreements and/or subject vessels to civil lawsuits.
- Industry considering alternatives to address this – legislation?





OTHER VGP AND USCG FINAL RULE DIFFERENCES

- VGP requires ballast water exchange in addition to treatment for some vessels enroute to the Great Lakes, creating safety concerns.
- VGP has specific requirements for treatment system monitoring along with maintenance of records on board and submission of monitoring records to EPA as part of the Annual Report.
- USCG Final Rule is less specific on monitoring. Existing USCG BWM guidance under revision.
- VGP has treatment system “active substance” discharge limitations.
- USCG Final Rule requires compliance with EPA requirements.



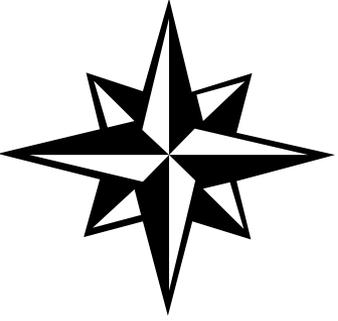


US STATE ACTION



- New York and California are most active states and originally proposed treatment standards 100 and 1,000 times more stringent than D-2.
- New York (NY) has now adopted D-2 as noted in the VGP. However, NY requires ballast water exchange in addition to treatment for *all NY waters*. Maine and Rhode Island have a similar provision in the VGP.
- California still maintains a ballast water discharge standard that far exceeds D-2 but has extended compliance dates to 1 January 2016 for vessels constructed on or after that date and existing vessels with ballast capacity of 1500 to 5000 m³. Compliance date is 1 January 2018 for existing vessels < 1500 m³ or > 5000 m³.



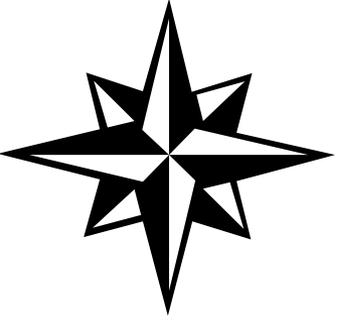


US CONGRESSIONAL ACTION



- Past Congressional proposals to adopt the IMO Convention ballast water discharge standard D-2; the USCG ballast water treatment rulemaking; end the VGP; and, preempt State regulation without federal approval have not been successful.
- New proposal now in the US Senate, S.2094, would:
 - Adopt the USCG ballast water rulemaking as the only management requirements for ballast water discharge.
 - Require a more stringent State standard to be approved by the Secretary of the Department in which the USCG is operating.
 - Develop a uniform national standard for other incidental discharges from vessels in place of the VGP with USCG as lead agency.
 - In the future, consider feasibility of more stringent standards.

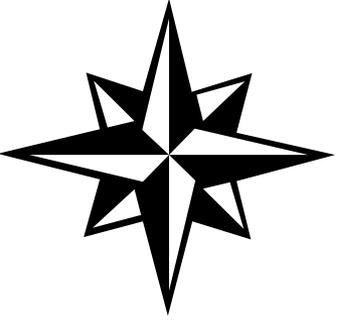




RECOMMENDATIONS

- Given the foregoing, shipowners need to do considerable study to evaluate available treatment systems to meet their needs and develop a timely acquisition and installation plan, to include:
 - A detailed review of manufacturer data concerning BWTS capacity and type approval testing actually performed; limitations re: salinity, temperature and turbidity;
 - Flag administration type approval; and, whether the manufacturer has applied or plans to apply for acceptance by USCG as AMS and pursue type approval; determination as to whether the system has been shown effective by testing in accordance with the VGP and ETV protocol; and,
 - Review of the USCG Final Rule and Final VGP and associated guidance documents along with the impact of federal legislation, if enacted, and State requirements.

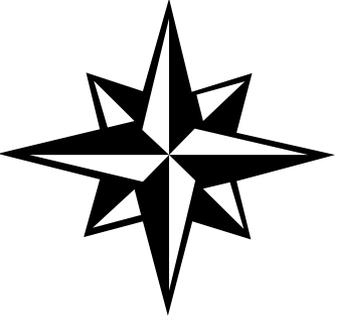




INFORMATION LINKS

- USCG Final Rule, FAQs, AMS acceptance letters, extension letters and other information:
 - <https://homeport.uscg.mil/mycg/portal/ep/home.do>
 - Click on Environmental and then Ballast Water Management Program
- EPA VGP, Fact Sheet, Economic Analysis and other links:
 - <http://cfpub.epa.gov/npdes/vessels/vgpermit.cfm>
- Republic of the Marshall Islands (RMI) Guidance for VGP and BWM:
 - <http://www.register-iri.com/forms/upload/MN-2-014-1.pdf>
 - http://www.register-iri.com/forms/upload/MSAdvisory_23-12.pdf
 - http://www.register-iri.com/forms/upload/MSAdvisory_70-13.pdf





THANK YOU!



North Star Maritime, Inc.

