



EPA's Vessel General Permit (VGP)  
and  
The Coast Guard's Ballast Water  
Management Regulatory Program

June 12, 2013



# EPA's Vessel General Permit (VGP)



# CLEAN WATER ACT (CWA) PERMIT BASICS

*For more info visit <http://cfpub.epa.gov/npdes/>*

- “Discharge of a pollutant” generally prohibited without a permit [CWA section 301(a)]
- National Pollutant Discharge Elimination System (NPDES) Permits [CWA section 402]
  - Individual permits
  - General permits
  - Permit term not to exceed 5 years
  - For EPA-issued permits, State 401 certification and CZMA concurrences required



# Establishing NPDES Effluent Limits: Obligations under the CWA



- Effluent limits [CWA section 301(b)]
  - Technology-based [CWA section 304(b)] (TBEL)
    - Generally, Best Available Technology (BAT) established on a Best Professional Judgment (BPJ) basis
  - Water quality-based [CWA section 301(b)(1)(c)] (WQBEL)
    - Generally, limits as stringent as necessary to comply with applicable water quality standards



# Brief History and Key Dates

- September 18, 2006: a U.S District Court issued an order revoking regulation (40 C.F.R. 122.3(a)) which meant that incidental discharges from vessels were required to have NPDES permits, consistent with the Clean Water Act
- December 18, 2008: EPA finalizes first Vessel General Permit (2008 VGP)
- 2009-2011: EPA develops technical information for next VGP and gathers information from the regulated community
- November 30, 2011: EPA releases draft 2013 VGP and sVGP
- February 21, 2012: Close of public comment period (EPA received over 5,500 comments)
- March 2012: USCG finalizes Ballast Water Discharge Standard Regulation
- March 28, 2013: EPA issues 2013 VGP
- December 19, 2013: 2013 VGP effective date



# Scope of the VGP

- National in scope
  - Covers waters of all 50 states, U.S. territories, and tribal waters out to 3 nautical miles
  - CWA section 401 certification
    - Under section 401, states/tribes have to certify that federally issued permits/licenses are protective of their water quality in order for the permit to be issued for discharges in a state/tribe's waters
- 2008 VGP effective until December 19, 2013
  - At that time, will be replaced by the 2013 VGP, which was issued in March

**Summary of the VGP Vessel Universe:**  
Information Submitted by Vessel Owner/Operators  
for Coverage under the 2008 Vessel General Permit (VGP)

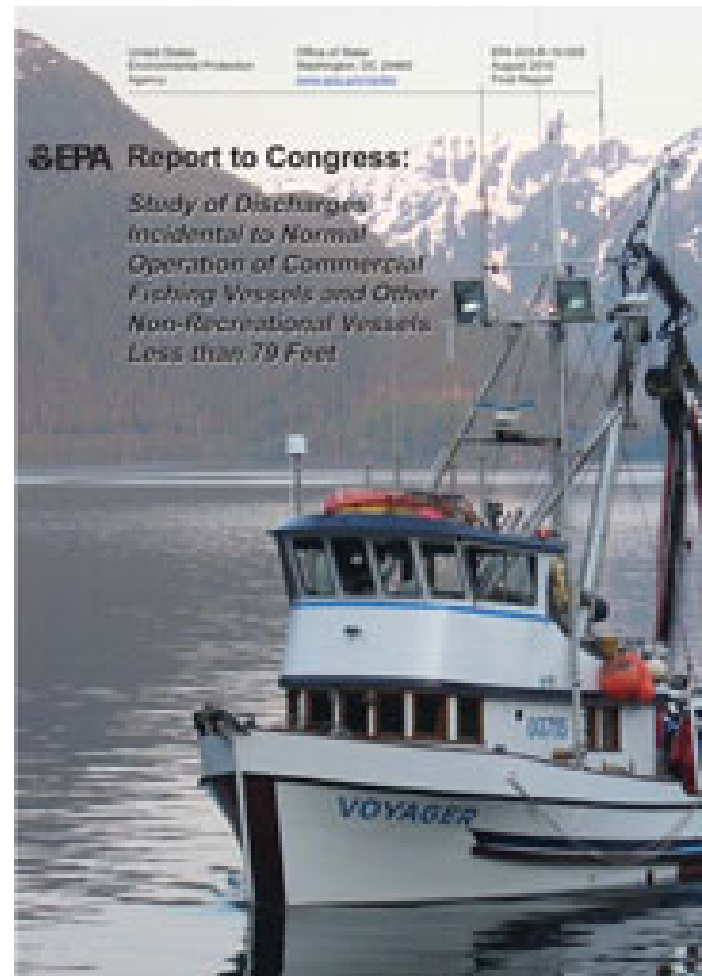
The grid contains four images of vessels: a cruise ship (top-left), a large cargo ship (top-right), a tugboat (middle), and a smaller motorboat (bottom-right). The bottom-left cell is empty.

U.S. Environmental Protection Agency  
Office of Water, Water Permits Division  
EPA-833-K-11-102  
March 2013



# Related Activity - Vessels less than 79 feet: Small Vessel General Permit (sVGP)

- Temporary moratorium for incidental discharges from commercial fishing vessels and vessels less than 79 feet in length
  - Moratorium originally until July 2010 (P.L. 110-299).
  - Subsequently extended to December 19, 2013 (P.L. 111-215) and later December 19, 2014 (112-213)
- In the event moratorium is not extended, EPA proposed the Small vessel General Permit in November 2011
  - EPA intends to finalize that permit later this year

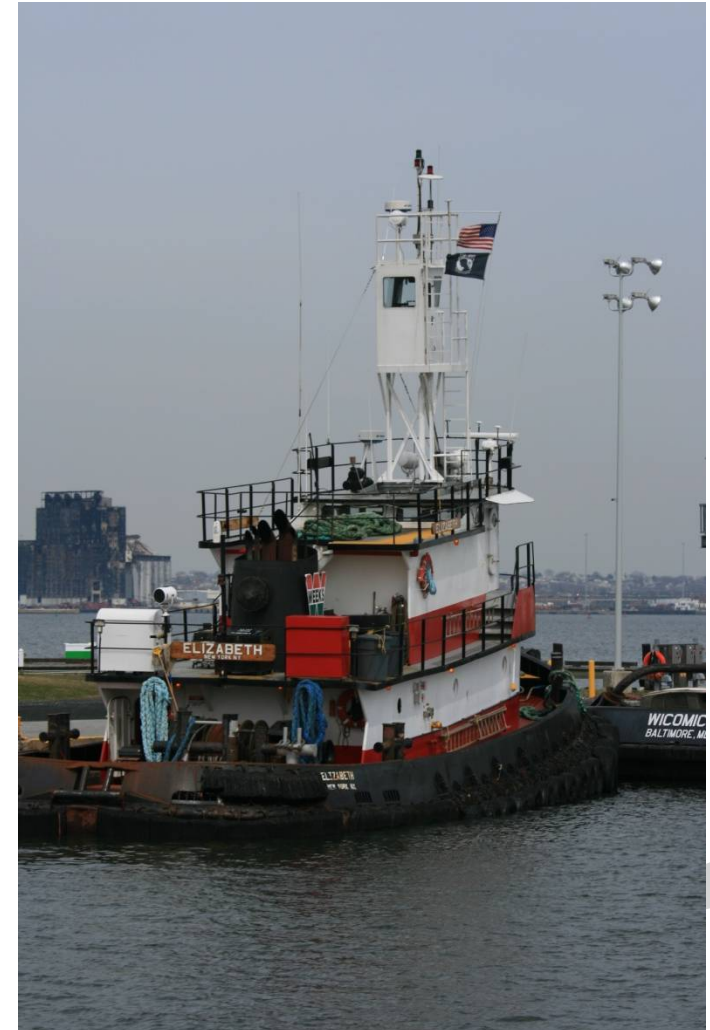






# VGP Eligibility

- Non-recreational, non-military vessels greater than 79 feet
  - Military vessels, including Navy and Coast Guard vessels, are not covered and not impacted
  - Approximately 70,000 existing VGP vessels plus
    - ~2,200 commercial fishing vessels greater than 79 feet (if needed)







# Science Advisory Board Ballast Water Study

- **EPA's Science Advisory Board (SAB):**
  - Evaluated the status of existing and potential shipboard ballast water treatment technologies and their ability to meet different discharge standards
- **SAB Report Key Conclusions:**
  - International Maritime Organization (IMO) standard is achievable from a technology and testing standpoint
  - The state of technology does not support a TBEL limit more stringent than IMO for shipboard treatment systems
  - Issue of detection/quantification below IMO



# National Academy of Sciences Study

## ■ National Academy of Sciences National Research Council (NAS):

- The NAS study panel assessed methods to evaluate the risk of invasive species introductions associated with ballast water discharges



## ■ NAS Report Key Conclusions:

- Found our ability to adequately quantify risk suffers from a “profound lack of data”
- Concluded that the IMO standard is “clearly a first step forward” and that it “represents a significant reduction in concentrations beyond ballast water exchange”



# Ballast Water Limits in the VGP

Large Organisms ( $> 50\mu\text{m}$ )	Small Organisms ( $>10\mu$ and $\leq 50\mu\text{m}$ )			
		Toxigenic <i>Vibrio cholerae</i> (O1 & O139)	<i>Eschericia coli</i>	Intestinal enterococci
$< 10$ per $\text{m}^3$	$< 10$ per ml	$<1$ cfu per 100 ml	$<250$ cfu per 100 ml	$<100$ cfu per 100 ml

- Same as USCG final ballast water rule
  - Expressed as instantaneous maximum
- Found numeric Water Quality-Based Effluent Limit (WQBEL) infeasible to calculate



# Ballast Water

- Four possible options to meet limits:
  - Use a treatment device (e.g. U.S. type approved system or an Alternate Management System)
  - Use onshore treatment
  - Use public water supply water (from US and Canada only)
  - No discharge
- Implementation schedule:

	<b>Vessel's Ballast Water Capacity</b>	<b>Date Constructed</b>	<b>Vessel's Compliance Date</b>
New vessels		After December 1, 2013	On delivery
Existing vessels	Less than 1500 m <sup>3</sup>	Before December 1, 2013	First scheduled drydocking after January 1, 2016
	1500-5000 m <sup>3</sup>	Before December 1, 2013	First scheduled drydocking after January 1, 2014
	Greater than 5000 m <sup>3</sup>	Before December 1, 2013	First scheduled drydocking after January 1, 2016



# Interim Ballast Water Requirements

- Interim requirements must be met (Part 2.2.3.6) until numeric limits apply
  - Requirements fundamentally the same as the 2008 VGP
- Interim requirements include:
  - Incorporating existing Coast Guard mandatory management and exchange requirements
  - Mandatory saltwater flushing for all vessels with residual ballast water and sediment (NOBOBs) coming from outside the USEEZ and 200 nm from shore
  - Mandatory exchange and flushing for vessels engaged in Pacific nearshore voyages
  - Conducting exchange as early as practicable



# Ballast Water: Discharges into the Great Lakes

## Additional WQ-based Requirement

- Certain vessels entering the Great Lakes must conduct ballast water exchange/saltwater flushing in addition to treatment if they have taken on ballast from freshwater or brackish water ecosystems within the previous month
- Additional protection for unique and valuable resource that has been particularly impacted by introduction of Aquatic Nuisance Species (ANS)





# State 401 Certification

- Under Section 401 of the Clean Water Act, States have to certify that federally issued permits are protective of water quality in order for the permit to be issued in a state's waters
- Two “numeric” limits potentially applicable in permit term
  - California – “no detectable living organisms”
  - IMO D-2 equivalent (same as EPA and USCG)
- Most Great Lakes States certified “exchange plus treatment” for vessels entering the Great Lakes that discharge in their waters
- Some state-specific monitoring requirements applicable for specific vessel types in certain states





# VGP Compliance



- Coast Guard and EPA MOU
  - Signed 2/11/2011
- VGP Inspections Conducted by the Coast Guard (March 2011 – May 2013)
  - Conducted 46,000+ safety/security inspections/examinations
    - VGP related items reviewed
  - 428 VGP Related Deficiencies Noted:
    - 107 Deficiencies on Domestic Vessels, and
    - 321 Deficiencies on Foreign Vessels.
  - The Majority of the Deficiencies Can Be Attributed to These Categories:
    - 212 - Failure to file Notice of intent
    - 96 - Failure to conduct Routine Visual Inspections
    - 72 - Failure to document Routine Visual Inspections



# USCG Ballast Water Management Program



# Road to the BW Discharge Standard Rule



- Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990
  - Directed the Coast Guard to prevent or reduce the introduction of and control the spread of NIS via the discharge of ballast water from those vessels entering U.S. waters of Great Lakes after operating outside the exclusive economic zone (EEZ).
  
- National Invasive Species Act 1996
  - Extend Great Lakes regime to the nation.
  - First voluntary for 2 years.
  - Then mandatory if voluntary compliance insufficient.
  - Specific practices directed:
    - BWE Mid-ocean; Retention; Alternative BWE areas; USCG-approved, environmentally sound alternatives.



# Road to the BW Discharge Standard Rule



- Notice of Proposed Rulemaking - Aug 2009
- Public Comment Period ended – Dec 2009
  - NPRM received over 3,000 comments
  - Top 3 issues: (1) applicability; (2) availability of technology; and (3) unified Federal standard
- Completed E.O. 12866 review – February 2012
- Publish Final Rule – March 2012 with June 2012 effective date
  - Docket No. USCG-2001-10486



# Rule is Important for...



- Replacing open ocean ballast water exchange as the basis of protection
  - All ships not designed and constructed to conduct BWE safely under all voyage conditions.
    - Safety and route exemptions necessary to avoid significant impacts on commerce
  - Efficacy of BWE is uncertain within and among ships.
  - Alignment with international regime that is expected to enter into force within the near-to-mid term.



# Overview of Rule



- Provides a Ballast Water Discharge Standard = IMO BW Convention Discharge Standard
- Applicability
  - (1) Vessels currently required to conduct Ballast Water Exchange (BWE); and (2) sea-going vessels operating within EEZ, across multiple Captain of the Port (COTP) Zones and that are greater than 1,600 GRT
- COTP Zone exemption
- Establishes Type Approval requirements for BW treatment systems, uses EPA Environmental Technology Verification (ETV) protocol for land-based testing
  - ETV Program after publication of NPRM
- Alternate Management Systems (AMS) and provision for acceptance of existing data from foreign type approvals
- Date for “new construction” 12/1/2013



# Interagency Actions



- Coordination with EPA
  - National Academies and EPA Science Advisory Board studies
- Key partners in Great Lakes Ballast Water Collaborative
- Coordination with EPA and the Maritime Administration (MARAD) on maritime technology issues





# Interagency Actions

- Great Lakes Restoration Initiative (GLRI) Projects
  - Coast Guard funded & conducted an inter-calibration of two existing ballast water treatment (BWT) test facilities including the Great Ships Initiative (GSI) test facility in Superior, WI.
  - Researching & developing tools that can assesses shipboard compliance to the BW Discharge Standard.
  - The Laker Feasibility Study examined different categories of Lakers, determined potentially suitable BWT systems and their installation modifications and costs.
  - Ship-based BW treatment system testing project developed & tested a protocol for shipboard testing based on the shore-based protocol.



# Independent Studies

- National Research Council – Assessed methods to evaluate risk of introductions associated with ballast water discharges
  - IMO provides significant reduction beyond exchange
- EPA Science Advisory Board - Evaluate existing/potential shipboard technologies and ability to meet different discharge standards
  - IMO achievable, study does not support Technology-Based Effluent Limit > IMO
  - Issue of detection/quantification stricter than IMO



# Independent Labs

- Critical private sector entities necessary for USCG type approval process for marine pollution prevention technologies.
- Key aspects for acceptability:
  - Independent of BWMS vendors/manufacturers
  - Capacity and ability to conduct test protocol
  - Rigorous QA/QC programs.



- NSF Int'l, Ann Arbor, MI – approved July 2012
- Maritime Environmental Resource Center, Baltimore, MD
- Great Ships Initiative, Superior, WI
- Retlif Test Laboratories, Ronkonkoma, NY



# Availability of Technology/Type Approval



- IMO approvals and Flag Administration type approvals in accordance with Convention already taking place.
- CG type-approval requirements established in FR
  - Provision for acceptance of data resulting from testing for foreign type approval under Convention
    - Must meet US data quality requirements
- Test facilities in numerous countries
  - Netherlands, Singapore, Norway, Denmark, Republic of Korea, Japan, China, and USA
  - Ability of foreign facilities to meet Coast Guard test requirements unknown



# Existing Ballast Water Management Compliance



- NVIC 07-04 – Ballast Water Management for the Control of Aquatic Nuisance Species in the Waters of the United States
- Applicability – Each vessel equipped with ballast tanks bound for the United States
- Evaluation of Compliance:
  - Failure to provide the BWM report to the proper location within the required timeframe;
  - Failure to retain the necessary signed BWM records onboard the vessel for two years;
  - Required records/reports not complete/accurate.



# BW Compliance Posture

- Assess compliance during regular vessel inspections:
  - Port State control for foreign vessels
  - Domestic vessel inspection
- Follow Coast Guard's existing compliance approach
  - Similar to Oily Water Separator equipment verification
    - Documents (certifications and records)
    - Crew knowledge
    - Equipment approvals/condition/system verification
    - Sample discharge if warranted (Enforcement)
- Sampling and analysis methods and tools in development
  - USCG
  - International (IMO BWM Convention)

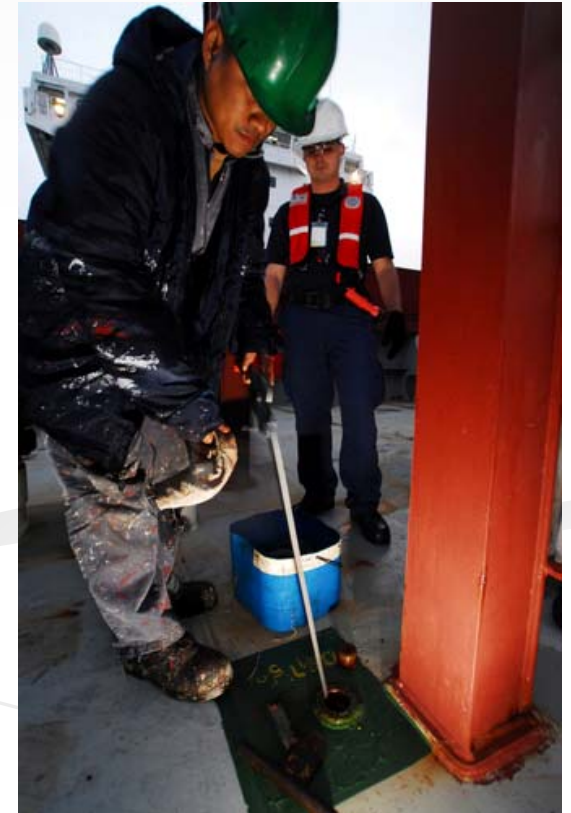




# Enforcement on the Great Lakes



- Great Lakes Seaway Ballast Water Working Group coordinates bi-national compliance and enforcement efforts to reduce the introduction of aquatic invasive species on the G.L.
- Working group comprised of U.S. Coast Guard & Transport Canada along with U.S. & Canadian Seaway personnel.
- In 2012, 100% of vessels bound the G.L. Seaway from outside the EEZ received BW management exams



Marine Safety Detachment Massena personnel working with a crewmember to get a sample of ballast water from a Hong Kong flagged freight ship in Montreal

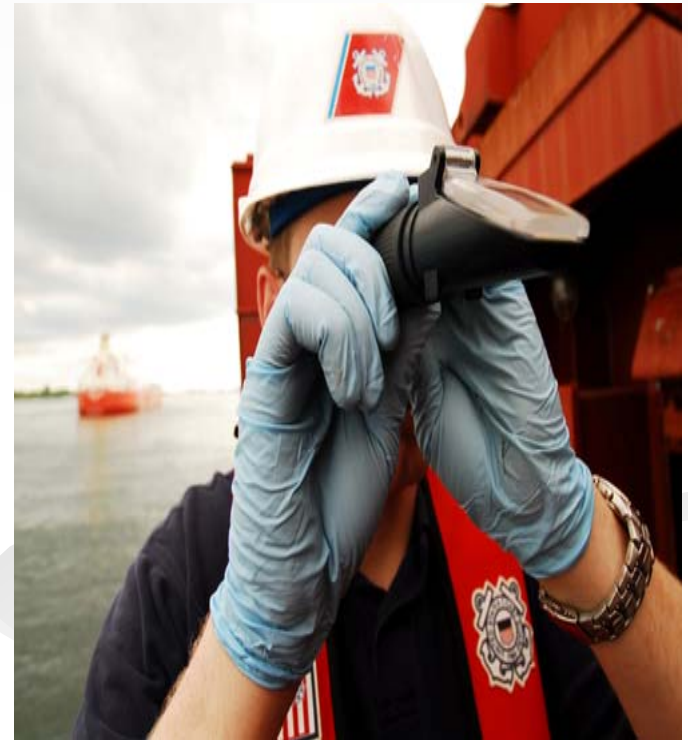




# Enforcement on the Great Lakes



- 6974 ballast tanks were assessed during 386 vessel transits.
- Vessels that were unable to exchange their ballast water/residuals were required to retain them onboard & were inspected prior to exiting the Seaway.
- Efforts appear to be successful, research by Canadian government indicates risk of BW introduction of ANS mitigated to extremely low levels.



Marine Safety Detachment Massena personnel peer through a refractometer at a sample of ballast water from a Hong Kong flagged freight ship in Montreal.