



US Review of Ballast Water Management Systems that use Biocides

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US Laws and Regulations

■ US Coast Guard

- Nonindigenous Aquatic Nuisance Prevention and Control Act / National Invasive Species Act
- Shipboard Technology Evaluation Program (STEP)

■ US EPA

- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- Clean Water Act & National Pollutant Discharge Elimination System (NPDES)



How are biocides regulated in the US?

- What is (or is not) a biocide?
- Federal Insecticide, Fungicide & Rodenticide Act (FIFRA) authorizes EPA to regulate biocides (or pesticides) in US
- Biocides are defined as:
“Any substance or mixture...intended for preventing, destroying, repelling or mitigating any pest”



How are biocides regulated in the US?

(Cont'd)

- EPA determines that a biocide meets health and safety requirements
- Then approves a product label for specific terms of safe use
- EPA may determine that an onboard generator of biocides is a “device”
 - Devices traditionally not subject to FIFRA (animal traps, etc.)



Biocides vs. Active Substances

- IMO's Ballast Water Management Convention
- Active Substance: “a substance or organism, including a virus or fungus that has a general or specific action on or against Harmful Aquatic Organisms and Pathogens”
- Some Active Substances may fall outside of US FIFRA regulations
 - Precursor chemicals mixed onboard



US Activities

- Coast Guard's proposed regulations would set a ballast water discharge standard
 - Type approval process for Ballast Water Management System (BWMS)
- EPA is reviewing applications for biocides by developers of BWMS
- Coast Guard and EPA Office of Pesticide Programs are developing a review process for BWMS that use biocides



Coast Guard and EPA

- Existing areas of cooperation with Offices of Water, Research & Development
- New partnership between Coast Guard and Office of Pesticide Programs
- Builds on each agency's traditional areas of expertise
 - Coast Guard: shipboard engineering & ops
 - EPA: toxicology & safe use of chemicals



US Registration of Biocides

- EPA has determined that ballast water treatment is a pesticide use and a “new use”
- The product must either be registered under FIFRA or exempt from registration
- EPA Office of Pesticide Programs
 - Antimicrobials Division is lead office
 - Experimental Use Permits – one vessel owner has received permit to develop data in STEP



EPA Vessel General Permit

- EPA issued new Vessel General Permit (VGP) to comply with recent legal ruling under Clean Water Act
- Technology-Based Effluent Limits for ballast water and certain other categories
- Treated ballast water must also meet US state limits for chemical discharges
 - State residual chlorine limits range 8-50 ug/l
- EPA may re-open ballast water standard



IMO Convention

- International Maritime Organization (IMO) adopted Ballast Water Management Convention in 2004, but not yet in force
- Convention has specific performance standards
 - G8 guideline for BWMS
 - G9 guideline for BWMS that use “Active Substances”
- Transition from ballast water exchange to treatment is on technology-forcing timeframe



IMO Convention

- Under G8 guidelines, BWMS that use only physical/mechanical means may get type approval through a Flag state
- Under G9 guidelines, BWMS that use active substances must obtain:
 - Basic Approval for active substances
 - Final Approval for overall BWMS
 - Type Approval by Flag Administration



Next Steps

- Continue the Coast Guard ballast water discharge standard rulemaking and BWMS type approval process
 - FIFRA, Clean Water Act, and other laws
- Lead US agency to coordinate with IMO Marine Environment Protection Committee



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