

BWMS Type Approval Review Checklist			
A	B	C	D
46 CFR 162.060 Requirement (CFR section noted in brackets)	Cross Reference (Applicant to identify page, paragraph and/or table where this information is located)	Adequacy (USCG to note Y/N/NA)	Comments (Applicant-black; USCG-red)
1. Design and Construction Requirements [162.060-20]			
1.1- Allows operation to be initiated, controlled, and monitored by a single individual, with minimal interaction or attention once normal operation is initiated [162.060-20(a)(2)]			
1.2- Is robust and suitable for working in the shipboard environment and adequate for its intended service [162.060-20(a)(3)]			
1.3- Meets recognized national or international standards for all related marine engineering and electrical engineering applications [162.060-20(a)(4)]			
1.4- Operates when the vessel is upright, inclined under static conditions at any angle of list up to and including 15°, and when the vessel is inclined under dynamic, rolling conditions at any angle of list up to and including 22.5° and, simultaneously, at any angle of trim (pitching) up to and including 7.5° by bow or stern [162.060-20(a)(5)]			
1.5- Each BWMS must have control and monitoring equipment that:			
1.5.1- Automatically monitors and adjusts necessary treatment dosages, intensities, or other aspects required for proper operation [162.060-20(b)(1)]			
1.5.2- Incorporates a continuous self-monitoring function during the period in which the BWMS is in operation [162.060-20(b)(2)]			
1.5.3- Records proper functioning and failures of the BWMS [162.060-20(b)(3)]			
1.5.4- Records all events in which an alarm is activated for the purposes of cleaning, calibration, or repair [162.060-20(b)(4)]			
1.5.5- Is able to store data for at least 6 months and to display or print a record for official inspections as required [162.060-20(b)(5)]			

1.5.6- In the event that the control and monitoring equipment is replaced, actions must be taken to ensure the data recorded prior to replacement remain available onboard for a minimum of 24 months [162.060-20(b)(6)]			
1.6- Each BWMS must be designed and constructed with the following operating and emergency controls:			
1.6.1- Visual means of indicating (both on the BWMS and in a normally manned space) when the BWMS is operating, including a visual alarm activated whenever the BWMS is in operation for the purpose of cleaning, calibration, or repair [162.060-20(c)(1)]			
1.6.2- Audio and visual alarm signals in all stations from which ballast water operations are controlled in case of any failure(s) compromising the proper operation of the BWMS [162.060-20(c)(2)]			
1.6.3- Means to activate stop valves, as applicable, if the BWMS fails [162.060-20(c)(3)]			
1.6.4- Suitable manual by-passes or overrides to protect the safety of the vessel and personnel in the event of an emergency [162.060-20(c)(4)]			
1.6.5- Means that compensate for a momentary loss of power during operation of the BWMS so that unintentional discharges do not occur [162.060-20(c)(5)]			
1.6.6- Means of automatic operation for BWMS installed in unoccupied machinery spaces, from the time placed on-line until the time secured [162.060-20(c)(6)]			
1.6.7- Adequate alarms for the unintentional release of active substances, preparations, relevant chemicals, or hazardous materials used in or produced by the BWMS [162.060-20(c)(7)]			
1.7- A BWMS must comply with the relevant requirements for use in a hazardous location, as defined in 46 CFR subpart 111.105, or its foreign equivalent, if it is intended to be fitted in a hazardous location. Any electrical equipment that is a component of the BWMS must be installed in a non-hazardous location unless certified as safe for use in a hazardous location. Any moving parts which are fitted in hazardous locations must be arranged in a manner that avoids the formation of static electricity [162.060-20(d)]			
1.8- Each part of the BWMS that the manufacturer's instructions require to be serviced routinely or that is liable to wear or damage must be readily accessible in the installed position(s) recommended by the manufacturer [162.060-20(e)(1)]			

1.9- To avoid interference with the BWMS, every access of the BWMS beyond the essential requirements, as determined by the manufacturer, must require the breaking of a seal, and, where possible for the purpose of maintenance, activate an alarm [162.060-20(e)(2)]			
1.10- Simple means must be provided aboard the vessel to identify drift and repeatability fluctuations and re-zero measuring devices that are part of the control and monitoring equipment [162.060-20(e)(3)]			
1.11- Each BWMS must be designed so that it does not rely in whole or in part on dilution of ballast water as a means of achieving the ballast water discharge standard as required in 33 CFR part 151, subparts C or D [162.060-20(f)]			
1.12- Adequate arrangements for storage, application, mitigation, monitoring (including alarms), and safe handling must be made for all BWMS that incorporate the use of, produce, generate, or discharge a hazardous material, active substance, preparation and/or pesticide in accordance with Coast Guard regulations on handling/storage of hazardous materials (33 CFR part 126) and any other applicable Federal, State, and local requirements [162.060-20(g)]			
1.13- For any BWMS that incorporates the use of or generates active substances, preparations, or chemicals, the BWMS must be equipped with each of the following, as applicable:			
1.13.1- A means of indicating the amount and concentration of any chemical in the BWMS that is necessary for its effective operation [162.060-20(h)(1)]			
1.13.2- A means of indicating when chemicals must be added for the proper continued operation of the BWMS [162.060-20(h)(2)]			
1.13.3- Sensors and alarms in all spaces that may be impacted by a malfunction of the BWMS [162.060-20(h)(3)]			
1.13.4- A means of monitoring all active substances and preparations and relevant chemicals in the treated discharge [162.060-20(h)(4)]			
1.13.5- A means to ensure that any maximum dosage or maximum allowable discharge concentration of active substances and preparations is not exceeded at any time [162.060-20(h)(5)]			
1.13.6- Proper storage of each chemical defined as a hazardous material in 49 CFR 171.8 that is specified or provided by the manufacturer for use in the operation of a BWMS. Each such chemical that is stowed onboard must be labeled and stowed in accordance with the procedures in 46 CFR part 147 [162.060-20(h)(6)]			

2. Test Report [162.060-34]			
2.1- The Test Report prepared and submitted by an independent laboratory must include information as follows:			
2.1.1- Name of the IL and all test facilities, subcontractors, and test organizations involved in testing the BWMS [162.060-34(a)(1)]			
2.1.2- BWMS manufacturer and model name [162.060-34(a)(2)]			
2.1.3- The IL's assessment that the BWMS:			
2.1.3.1- Has demonstrated, under the procedures and conditions specified in this subpart for both land-based and shipboard testing, that it meets the ballast water discharge standard requirements of 33 CFR part 151, subparts C and D [162.060-34(a)(4)(i)]			
2.1.3.2- Is designed and constructed according to the requirements of §162.060-20 of this subpart [162.060-34(a)(4)(ii)]			
2.1.3.3- Is in compliance with all applicable U.S. Environmental Protection Agency (EPA) requirements [162.060-34(a)(4)(iii)]			
2.1.3.4- Operates at the rated capacity, performance, and reliability as specified by the manufacturer [162.060-34(a)(4)(iv)]			
2.1.3.5- Contains control and monitoring equipment that operates correctly [162.060-34(a)(4)(v)]			
2.1.3.6- Was installed in accordance with the technical installation specification of the manufacturer for all tests [162.060-34(a)(4)(vi)]			
2.1.3.7- Was used to treat volumes and flow rates of ballast water during the shipboard tests consistent with the normal ballast operations of the vessel [162.060-34(a)(4)(vii)]			
2.2- Complete Test Plans for land-based, shipboard, and component tests [162.060-34(f)(1)]			
2.3- Manufacturer supplied Operation, Maintenance, and Safety Manual that meets the requirements of §162.060-38 [162.060-34(f)(2)]			
2.4- Data generated during testing and evaluations [162.060-34(f)(3)]			
2.5- Quality Assurance and Quality Control records [162.060-34(f)(4)]			
2.6- Maintenance logs [162.060-34(f)(5)]			
2.7- Relevant records and tests results maintained or created during testing [162.060-34(f)(6)]			

2.8- Information on hazardous materials, active substances, relevant chemicals, and pesticides as detailed in 162.060-34(g) [162.060-34(f)(7)]			
2.9- Permits, registrations, restrictions, and regulatory limitations on use [162.060-34(f)(8)]			
2.10- The Test Report for a BWMS that may incorporate, use, produce, generate as a by-product and/or discharge hazardous materials, active substances, relevant chemicals and/or pesticides during its operation must include the following information in the appendix of the Test Report:			
2.10.1- A list of each active substance or preparation used in the BWMS. For each active substance or preparation that is a pesticide and is not generated solely by the use of a device onboard the same vessel as the ballast water to be treated, the appendix must also include documentation that the sale or distribution of the pesticide is authorized under the Federal Insecticide, Fungicide, and Rodenticide Act for use for ballast water treatment. For all other active substances or preparations, the appendix must include documentation of the assessment specified in §162.060-32(b) [162.060-34(g)(1)]			
2.10.2- A list of all hazardous materials, including the applicable hazard classes, proper shipping names, reportable quantities as designated by 40 CFR 117.1, and chemical names of all components [162.060-34(g)(2)]			
3. Testing for BWMS Components [162.060-30]			
3.1- The electrical and electronic components, including each alarm and control and monitoring device of the BWMS, must be identified and subjected to the environmental tests specified in 162.060-30(a) when in the standard production configuration [162.060-30(a)]			
3.2- There must be no cracking, softening, deterioration, displacement, breakage, leakage, or damage of components or materials that affect the operation or safety of the BWMS after each test. The components must remain operable after all tests [162.060-30(b)]			

4. Testing and Evaluation for Active Substances, Preparations, and Relevant Chemicals [162.060-32]

4.1- A ballast water management system (BWMS) may not use an active substance or preparation that is a pesticide unless the sale and distribution of such pesticide is authorized under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for use in ballast water treatment prior to submission to the Coast Guard for approval of the BWMS. This requirement does not apply to the use of active substances or preparations generated solely by the use of a device (as defined under FIFRA) onboard the same vessel as the ballast water to be treated [162.060-32(a)]

4.2- The manufacturer of a BWMS that uses an active substance or preparation that is not a pesticide, or that uses a pesticide that is generated solely by the use of a device (as defined under FIFRA) onboard the same vessel as the ballast water to be treated, must prepare an assessment demonstrating the effectiveness of the BWMS for its intended use, appropriate dosages over all applicable temperatures, hazards of the BWMS, and means for protection of the environment, and public health [162.060-32(b)]

4.3- The ballast water discharge, preparation, active substance, or relevant chemical are not found to be persistent, bioaccumulative, or toxic when discharged [162.060-10(f)(5)]