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CG-OES Policy Letter
No. 02-19
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A handwritten signature in blue ink, appearing to read "S. T. Brady".

From: S. T. BRADY, CAPT
COMDT (CG-OES)

To: Distribution

Subj: CLARIFICATION ON WATER VOLUMES AND FLOW RATES FOR BALLAST
WATER MANAGEMENT SYSTEM (BWMS) TESTING

Ref: (a) Title 46 Code of Federal Regulations (CFR) Part 162.060

1. PURPOSE. After receiving requests from Independent Laboratories (ILs), the Coast Guard clarifies the requirements for volumes and flow rates of water during the testing of BWMS for land-based type approval testing.
2. ACTION. The Coast Guard will follow this policy when implementing the BWMS type-approval program. Internet release is authorized.
3. DIRECTIVES AFFECTED. None.
4. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is not intended to, nor does it impose, legally-binding requirements on any party. It represents the Coast Guard's current view on this topic and may assist industry, mariners, the general public, and the Coast Guard, as well as other federal and state regulators, in applying existing statutory and regulatory requirements.
5. APPLICABILITY. This policy letter applies to the procedures for testing of BWMS for type approval.
6. BACKGROUND. 46 CFR 162.060-26 requires land-based testing to be performed in accordance with the following specifications regarding volumes and flow rates:

“(c) Each valid test cycle must include—

- (1) Uptake of source water by pumping at a minimum of 200 m³/hr;
- (2) Treatment of a minimum of 200 m³ of challenge water with the BWMS;

(3) Pumping of a minimum of 200 m³ of control water through the test facility in a manner that is in all ways identical to paragraph (c)(2) of this section, except that the BWMS is not used to treat the water;

(4) Retention of the treated and control water in separate tanks for a minimum of 24 hours; and

(5) Discharge of the treated and control water by pumping.”

7. WATER VOLUMES. The Coast Guard has received several requests for acceptance of control water volumes significantly less than 200 m³, and in some cases for complete omission of control water, during type approval testing. The requirements regarding volumes of water required during land-based testing for type approval were established through duly promulgated regulation. Independent Laboratories (ILs) accepted by the Coast Guard in accordance with 46 CFR 162.060-40 have confirmed their ability to conduct the specific required testing procedures, including the required pumping rates and volumes. Consequently, there should be no need for routine or expected acceptance of volumes less than specified in reference (a).

General acceptance of lower volumes and rates would require a rulemaking to revise the promulgated minimum test requirements. The Coast Guard will evaluate the need for a revision to the volume and flow rate requirements during development of new type approval requirements under the Vessel Incidental Discharge Act of 2018 (Pub. L. 115-282). For circumstances where testing with the required volumes and rates is either not practicable, or not applicable, to a specific ballast water management system, the provisions of 46 CFR 162.060-10(b)(1) authorize the Coast Guard to accept equivalent alternatives on a case-by-case basis. Given that acceptance as an IL is based in part on the documented ability to test with the required minimum rates and volumes, the Coast Guard does not anticipate approving 46 CFR 162.060-10(b)(1) proposals predicated on the impracticability of achieving the required flow rates and volumes given infrastructure limitations of a test facility.

In some cases, requests from ILs to omit the use of control water during some tests have been associated with test cycles to support an amendment request for a system that had already been fully tested in accordance with the requirements and had been granted type approval. In other cases, the requests were associated with testing in which there was no hold time (i.e., the manufacturer claimed the BWMS was immediately effective, and required no hold-time to achieve the discharge standard and any associated limits on residual disinfectants).

While the Coast Guard initially approved one such request regarding hold time, further deliberation raised additional issues of concern, and no further requests to omit controls under that circumstance have been granted. Although tests of zero, or very low, hold-times may not involve retention of treated or control water in a tank prior to discharge and analysis, there is still a need for controls. The purpose of controls is to ensure that the

observed effect of the treatment is due to the action of the BWMS, and not to some unexplained effect due to the procedures and infrastructure of the test facility. Therefore, even if treatment does not require a minimum hold time in a tank, a control line is still required for comparison to the treatment line.

8. FLOW RATES. Requirements in reference (a) specify that each valid test cycle must include “[u]ptake of source water by pumping at a minimum of 200 m³/hr.” 46 CFR 162.060-26. This means the test facility must be designed to deliver challenge water at that rate or higher, and a test must begin with challenge water being delivered to the BWMS at that rate or higher. Test plans are often designed to evaluate extremely challenging conditions, and systems may be designed to adjust the flow rate downward under such circumstances. Per 46 CFR 162.060-26(b), automatic adjustments in the BWMS operation are permitted if such adjustments are clearly part of the system design. Manual adjustments of the BWMS operation are permitted only if such adjustments are specifically detailed in the Operation, Maintenance, and Safety Manual (OMSM). This regulation means that if a system has been set up to begin a test at a compliant flow rate, then if the flow rate is adjusted downward either automatically or manually in accordance with the OMSM to maintain design operational criteria (e.g., pressure differential across a filter or the product of UV intensity and exposure time), the test is still valid, even if the flow rate through the system during testing drops below 200 m³/hr. No 46 CFR 162.060-10(b)(1) request is necessary for such tests. Importantly, the total control and treated volume discharges must still meet the 200 m³ requirement, and the test report must clearly document and explain the changes in flow during the test.
9. UNPLANNED / UNEXPECTED CIRCUMSTANCES. The Coast Guard has allowed singular deviations from the required volumes and flow rates when such occurred due to unplanned circumstances during a test. The Coast Guard will continue to consider requests for such allowances through proposals submitted in accordance with 46 CFR 162.060-10(b)(1). Importantly, requests must explain why the shortfall occurred, why it could not be compensated for before or during the test, and what the IL has done to reduce the likelihood of similar occurrences in future tests.

If you have questions regarding the above, please contact the Chief of the Environmental Standards Division at Environmental_standards@uscg.mil.

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