or lettering must be capable of withstanding the combined effects of normal wear and tear and exposure to water, salt spray, direct sunlight, heat, cold, and any substance used in the normal operation and maintenance of the BWMS without loss of readability. The nameplate must not be obscured by paint, corrosion, or other materials that would hinder readability.


§ 162.060–24 Test Plan requirements.

(a) The Coast Guard requires Test Plans for land-based, shipboard, and component testing conducted to meet the requirements of §§ 162.060–26, 162.060–28 and 162.060–30 of this subpart, respectively. Test Plans must include an examination of all the manufacturer’s stated requirements and procedures for installation, calibration, maintenance, and operations that will be used by the ballast water management system (BWMS) during each test, as appropriate for the specific test.

(b) Test Plans must also include potential environmental, health, and safety issues; unusual operating requirements; and any issues related to the disposal of treated ballast water, by-products, or waste streams.

(c) For land-based testing, a Test Plan prepared under the ETV Protocol may be submitted (ETV Protocol incorporated by reference, see § 162.060–5). Otherwise, each Test Plan must be in the following format:

(1) Title page, including all project participants.
(2) Table of contents.
(3) Project description and treatment performance objectives.
(4) Project organization and personnel responsibilities.
(5) Description of the independent laboratory and all test facilities and subcontractors.
(6) BWMS description.
(7) Experimental design (including installation/start-up plan for tested equipment).
(8) Challenge conditions and preparation (including the test facility’s standard operating procedures for achieving such conditions).
(9) Sampling, data acquisition, and analysis plan, including all necessary procedures.
(10) Data management, analysis, and reporting.
(11) Quality Assurance Project Plan, in accordance with the requirements of § 162.060–36 of this subpart.
(12) Environmental, health, and safety plans.
(13) Applicable references.

§ 162.060–26 Land-based testing requirements.

(a) Each ballast water management system (BWMS) must undergo land-based tests and evaluations that meet the requirements of the ETV Protocol (incorporated by reference, see § 162.060–5). The land-based testing will determine if the biological efficacy of the BWMS under consideration for approval is sufficient to meet the applicable ballast water discharge standard (BWDS) and validate those aspects of the operating and maintenance parameters presented by the manufacturer that are appropriate for assessment under the relatively short-term, but well-controlled, circumstances of a land-based test.

(b) The test set up must operate as described in the ETV Protocol Test Plan requirements during at least five consecutive, valid, and successful replicate test cycles. No adjustments to the BWMS are permitted unless specifically detailed in the Operation, Maintenance and Safety Manual. The BWMS must be operated by independent laboratory or independent laboratory subcontractor personnel.

(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.