(ii) Horizontally from side to side; and

(iii) Horizontally from end to end.

(2) The vibrating frequency must be 80 Hz, except that the vibrating frequency of equipment that has a resonant frequency between 2 Hz and 80 Hz must be the resonant frequency. If the vibrating frequency is between 2 Hz and 13.2 Hz, the displacement amplitude must be ±1 mm. If the vibrating frequency is between 13.2 Hz and 80 Hz, the acceleration amplitude must be ±[(.7)(gravity)].

(c) After completion of the tests specified in paragraph (b) of this section, a search must again be made for resonance and any significant change in the vibration pattern must be noted in the test report.

[CGD 76–088a, 44 FR 53359, Sept. 13, 1979, as amended by USCG–2004–18939, 74 FR 3392, Jan. 16, 2009]

§ 162.050–39 Measurement of oil content.

The collection and testing of all samples of oil in water from the required test will be accomplished in accordance with ISO 9377–2 (2000), Water Quality—Determination of hydrocarbon oil index-Part 2: Method Using solvent extraction and Gas Chromatography (incorporated by reference, see §162.050–4).

[USCG–2004–18939, 74 FR 3393, Jan. 16, 2009]

Subpart 162.060—Ballast Water Management Systems

AUTHORITY: 16 U.S.C. 4711; Department of Homeland Security Delegation No. 0170.1.

SOURCE: USCG–2001–10486, 77 FR 17311, Mar. 23, 2012, unless otherwise noted.

§ 162.060–1 Purpose and scope.

This subpart contains procedures and requirements for approval of complete ballast water management systems to be installed onboard vessels for the purpose of complying with the ballast water discharge standard of 33 CFR part 151, subparts C and D.

§ 162.060–3 Definitions.

As used in this subpart—

Active substance means a chemical or an organism, including a virus or a fungus, that has a general or specific action on or against nonindigenous species.

Administration means the government of the nation/State under whose authority a vessel is operating.

Ballast water means any water and suspended matter taken onboard a vessel to control or maintain trim, draught, stability, or stresses of the vessel, regardless of how it is carried.

Ballast water management system (BWMS) means any system which processes ballast water to kill, render harmless, or remove organisms. The BWMS includes all ballast water treatment equipment and all associated control and monitoring equipment.

Ballast water system means the tanks, piping, valves, pumps, sea chests, and any other associated equipment that the vessel uses for the purposes of ballasting.

Ballast water treatment equipment means that part of the BWMS that mechanically, physically, chemically, or biologically processes ballast water, either singularly or in combination, to kill, render harmless, or remove organisms within ballast water and sediments.

Challenge water means water just prior to treatment. In land-based tests, source water may be augmented to achieve required challenge water conditions.

Control and monitoring equipment means that part of the BWMS required to operate, control, and assess the effective operation of the ballast water treatment equipment.

Hazardous location means areas where fire or explosion hazards may exist due to the presence of flammable gases/vapors, flammable liquids, combustible dust, or ignitable fibers, as determined in accordance with the standards of construction applicable to the vessel on which the BWMS is to be installed.

Hazardous materials means hazardous materials as defined in 49 CFR 171.8; hazardous substances designated under 40 CFR part 116.4; reportable quantities as defined under 40 CFR 117.1; materials that meet the criteria for hazard classes and divisions in 49 CFR part 173; materials under 46 CFR 153.40 determined by the Coast Guard to be hazardous when transported in bulk; flammable liquids defined in 46 CFR 30.10–

22; combustible liquids as defined in 46 CFR 30.10–15; materials listed in Table 46 CFR 151.05, Table 1 of 46 CFR 153, or Table 4 of 46 CFR part 154; or any liquid, liquefied gas, or compressed gas listed in 49 CFR 172.101.

Independent laboratory means an organization that meets the requirements in 46 CFR 159.010–3. In addition to commercial testing laboratories, which may include not-for-profit organizations, the Commandant may also accept classification societies and agencies of governments (including State and Federal agencies of the United States) that are involved in the evaluation, inspection, and testing of BWMS.

In-line treatment means a treatment system or technology used to treat ballast water during normal flow of ballast uptake, discharge, or both.

In-tank treatment means a treatment system or technology used to treat ballast water during the time that it resides in the ballast tanks.

Pesticide means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest as defined under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et.seq.) and 40 CFR 152.3.

Preparation means any commercial formulation containing one or more active substances, including any additives. This definition also includes any active substances generated onboard a vessel for the purpose of ballast water management to comply with the ballast water discharge standard codified in 33 CFR part 151 subpart C or D.

Quality Assurance Project Plan (QAPP) means a project-specific technical document reflecting the implementation of Quality Assurance and Quality Control activities, including specifics of the BWMS to be tested, the independent laboratory, and other conditions affecting the actual design and implementation of the required tests and evaluations.

Relevant chemical means any transformation or reaction product that is produced during the treatment process or in the receiving environment and which may be of concern to the aquatic environment and human health when discharged.

Representative sample means a random sample, in which every item of interest (organisms, molecules, etc.) in the larger population has an unbiased chance of appearing.

Sampling port means the equipment installed in the ballast water piping through which representative samples of the ballast water being discharged are extracted. This is equivalent to the term ''sampling facility'' under the International Maritime Organization (IMO) Guidelines for Ballast Water Sampling (G2), published as IMO Resolution MEPC.173(58) on October 10, 2008.

Source water means the body of water from which water is drawn for either land-based or shipboard testing.

Test facility means the location where the independent laboratory conducts land-based, component, active substance, and relevant chemical testing and evaluations, as required by this subpart.

§ 162.060–5 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the FEDERAL REGISTER and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. Also, it is available for inspection from the Director of Commercial Regulations and Standards (CG-5PS), U.S. Coast Guard, 2100 2nd St. SW., Stop 7126, Washington, DC 20593–7126, and is available from the sources listed below.

(b) International Electrotechnical Commission (IEC), 3 rue Varembe, P.O. Box 131, 1211 Geneva 20, Switzerland.

(1) IEC 60529, Classification of Degrees of Protection by Enclosures (IP Code), Edition 2.1 consolidated with amendment 1:1999 (dated February, 2001), IBR approved for § 162.060–30.

(2) [Reserved]

(c) International Organization for Standardization (ISO), ISO Central Secretariat, 1, ch. de la Voie-Creuse, Case postale 56 CH–1211 Geneva 20, Switzerland.

(1) ISO/IEC 17025:2005(E), General Requirements for the Competence of Calibration and Testing Laboratories, Second Edition (dated May 15, 2005), IBR approved for §162.060–36.

(2) ISO/IEC 17025:2005/Cor.1:2006(E), General Requirements for the Competence of Testing and Calibration Laboratories, Technical Corrigendum 1, (dated August 15, 2006), IBR approved for §162.060–36.

(d) U.S. Environmental Protection Agency (EPA), Environmental Technology Verification Program, National Risk Management Research Laboratory Office of Research and Development, U.S. Environmental Protection Agency, 2890 Woodbridge Avenue (MS–104), Edison, New Jersey 08837.

(1) EPA/600/R–10/146, Generic Protocol for the Verification of Ballast Water Treatment Technologies, version 5.1, (dated September 2010), IBR approved for §§162.060–26 and 162.060–28 (ETV Protocol).

(2) [Reserved]

§162.060–10 Approval procedures.

(a) Not less than 30 days before initiating any testing of a ballast water management system (BWMS), the results of which are intended for use in an application for type approval, the manufacturer must submit a Letter of Intent (LOI) providing as much of the following information as possible to the Commanding Officer, U.S. Coast Guard Marine Safety Center (MSC), 2100 2nd St. SW., Stop 7102, Washington, DC 20593–7102, or by email to *msc@uscg.mil:*

(1) Manufacturer's name, address, and point of contact, with telephone number or email address.

(2) Name and location of independent laboratory and associated test facilities and subcontractors, plus expected dates and locations for actual testing.

(3) Model name, model number, and type of BWMS.

(4) Expected date of submission of full application package to the Coast Guard.

(5) Name, type of vessel, and expected geographic locations for shipboard testing.

(b) The manufacturer must ensure evaluation, inspection, and testing of the BWMS is conducted by an independent laboratory, accepted by the Coast Guard, in accordance with §§162.060–20 through 162.060–40 of this subpart. Testing may begin 30 days after submission of the LOI unless otherwise directed by the Coast Guard.

(1) If an evaluation, inspection, or test required by this section is not practicable or applicable, a manufacturer may submit a written request to the Commanding Officer, U.S. Coast Guard MSC, 2100 2nd St. SW., Stop 7102, Washington, DC 20593–7102, or by email to *msc@uscg.mil*, for approval of alternatives as equivalent to the requirements in this section. The request must include the manufacturer's justification for any proposed changes and contain full descriptions of any proposed alternative tests.

(2) The Coast Guard will notify the manufacturer of its determination under paragraph (b)(1) of this section. Any limitations imposed by the BWMS on testing procedures and all approved deviations from any evaluation, inspection, or testing required by this subpart must be duly noted in the Experimental Design section of the Test Plan.

(c) The manufacturer must submit an application for approval in accordance with §162.060–14 of this subpart.

(d) Upon receipt of an application completed in compliance with §162.060–14 of this subpart, the MSC will evaluate the application and either approve, disapprove, or return it to the manufacturer for further revision.

(e) In addition to tests and evaluations required by this subpart, the Coast Guard will independently conduct environmental analyses of each system in accordance with the National Environmental Policy Act, the Endangered Species Act, and/or other environmental statutes. The Coast Guard advises applicants that applications containing novel processes or active substances may encounter significantly longer reviews during these environmental evaluations.

(f) A BWMS is eligible for approval if—

(1) It meets the design and construction requirements in §162.060–20 of this subpart;

(2) It is evaluated, inspected, and tested under land-based and shipboard conditions in accordance with §§162.060–26 and 162.060–28 of this subpart, respectively, and thereby demonstrates that it consistently meets the ballast water discharge standard in 33 CFR part 151, subparts C and D;

(3) All applicable components of the BWMS meet the component testing requirements of §162.060–30 of this subpart;

(4) The BWMS meets the requirements of §162.060–32 of this subpart if the BWMS uses an active substance or preparation; and

(5) The ballast water discharge, preparation, active substance, or relevant chemical are not found to be persistent, bioaccumulative, or toxic when discharged.

(g) After evaluation of an application, the Coast Guard will advise the applicant in accordance with 46 CFR 159.005–13 whether the BWMS is approved. If the BWMS is approved, a certification number will be issued and an approval certificate sent to the applicant in accordance with 46 CFR 2.75–5. The approval certificate will list conditions of approval applicable to the BWMS.

§162.060–12 Use and acceptance of existing test data.

(a) A manufacturer whose ballast water management system (BWMS) has completed approval testing for a foreign administration in accordance with the International Maritime Organization's Guidelines for Approval of Ballast Water Management Systems (G8) may use the data and information developed during such approval testing to support the submission of an application pursuant to §162.060–14 of this subpart. The applicant must submit the data and other information developed during approval testing and evaluation for another administration, and include a concise but thorough explanation of how the submission meets or exceeds the requirements of this subpart in respect to design, material and manufacture, and ability to meet the BWDS requirements.

(b) Applications under paragraph (a) of this section will not need to comply with the requirements for advance notice under §162.060–10(a) of this subpart for testing that has already occurred; or with the requirements that all evaluation, inspection, and testing of the BWMS is conducted by an independent laboratory, previously accepted by the Coast Guard, under §162.060–10(b) of this subpart. However—

(1) If the applicant determines, prior to submission of an application, that one or more aspects of the Coast Guard's requirements for approval of a BWMS are not satisfied by the data and information developed for approval by another administration, and that additional testing and evaluation is required, the applicant will notify the Coast Guard of the intent to conduct the new testing in accordance with the requirements of §162.060–10(a) and (b)(1) of this subpart.

(2) While laboratories and test facilities that conducted the test and evaluation for approval by another administration are not required to have been designated as independent laboratories under the requirements of this subpart at the time of such work, as would otherwise be required under §162.060–10(b) of this subpart, all laboratories and test facilities must have met the requirements under 46 CFR 159.010–3 and 159.010–5(a) at the time of such work. It is the responsibility of the applicant to ensure that the satisfaction of this requirement is adequately documented in the application.

§162.060–14 Information requirements for the ballast water management system (BWMS) application.

(a) A complete BWMS application must contain all of the following information:

(1) The name and location of the independent laboratory conducting approval tests and evaluations.

(2) Two sets of plans describing the BWMS, as specified in 46 CFR 159.005–12.

(3) An Operation, Maintenance, and Safety Manual for the BWMS that meets the requirements in §162.060–38 of this subpart.

(4) A bill of materials showing all components and specifications of the BWMS.

(5) A list of any systems or components of the BWMS that may require certification as marine portable tanks.

(6) A list of any pressure vessels used as a part of the BWMS, along with a description of the pressure vessel building standard, or code, or why the pressure vessel should be considered exempt from any requirements. Manufacturers must also submit detailed pressure vessel plans if they intend to fabricate pressure vessels, heat exchangers, evaporators, and similar appurtenances.

(7) Documentation of all necessary approvals, registrations, and other documents or certifications required for any active substances, preparations, or relevant chemicals used by the BWMS. The documentation must include the following:

(i) A list of any active substances, preparations, or relevant chemicals that are used, produced, generated as a byproduct, and/or discharged in association with the operation of the BWMS.

(ii) A list of all limitations or restrictions that must be complied with during the approval testing and evaluations, including any water quality limits established by the Environmental Protection Agency, States, or tribes, under the Clean Water Act.

(8) A detailed description of Quality Control procedures, in-process and final inspections, tests followed in manufacturing the item, and construction and sales record keeping systems.

(9) The completed Test Report required by §162.060–34 of this subpart prepared and submitted by the IL.

(b) The completed application must be sent by the manufacturer to the Commanding Officer, U.S. Coast Guard Marine Safety Center, 2100 2nd St. SW., Stop 7102, Washington, DC 20593–7102.

(c) If examination of the application reveals that it is incomplete, the Coast Guard will return it to the applicant with an explanation.

(d) Additional information, including electronic submission criteria, is available at *http://homeport.uscg.mil/msc*.

§ 162.060–16 Changes to an approved ballast water management system (BWMS).

(a) The manufacturer of a BWMS that is approved by the Coast Guard must notify the Commanding Officer, U.S. Coast Guard Marine Safety Center (MSC), in writing of any change in design or intended operational conditions of the BWMS.

(b) The notification required by paragraph (a) of this section must include—

(1) A description of the change and its advantages; and

(2) An indication of whether or not the original BWMS will be discontinued.

(c) After receipt of the notice and information, the Coast Guard will notify the manufacturer, in writing, of any tests or evaluations that must be conducted, and then determine if BWMS recertification and/or modification is required. The manufacturer may appeal this determination to the Director of Commercial Regulations and Standards (CG-5PS), U.S. Coast Guard, 2100 2nd St. SW., Stop 7126, Washington, DC 20593–7126.

§ 162.060–18 Suspension, withdrawal, or termination of approval.

The Coast Guard may suspend an approval issued under this subpart or alternate management system (AMS) determination issued under 33 CFR 151.2026(d) of a ballast water management system (BWMS) in accordance with 46 CFR 2.75–40, withdraw an approval or AMS determination in accordance with 46 CFR 2.75–50(a), or terminate an approval or AMS determination in accordance with 46 CFR 2.75–50(b) if the BWMS or AMS, as manufactured—

(a) Is found non-compliant with the conditions of approval;

(b) Is unsuitable for the purpose intended by the manufacturer;

(c) Does not meet the requirements of applicable laws, rules, and regulations, and other Federal requirements when installed and operated as intended by the manufacturer; or

(d) Cannot be maintained to operate as designed, due to lack of parts or necessary support services.

§ 162.060–20 Design and construction requirements.

(a) Unless otherwise authorized by the Commandant, each ballast water management system (BWMS) must be designed and constructed in a manner that—

(1) Ensures simple and effective means for its operation;

(2) Allows operation to be initiated, controlled, and monitored by a single individual, with minimal interaction or attention once normal operation is initiated;

(3) Is robust and suitable for working in the shipboard environment and adequate for its intended service;

(4) Meets recognized national or international standards for all related marine engineering and electrical engineering applications; and

(5) 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. The Coast Guard may permit deviations from these angles of inclination by considering the type, size, and service of intended vessels and considering how the BWMS is to be operated. These deviations must be included on the certificate issued in accordance with §162.060–10(g) of this subpart.

(b) Each BWMS must have control and monitoring equipment that—

(1) Automatically monitors and adjusts necessary treatment dosages, intensities, or other aspects required for proper operation;

(2) Incorporates a continuous self-monitoring function during the period in which the BWMS is in operation;

(3) Records proper functioning and failures of the BWMS;

(4) Records all events in which an alarm is activated for the purposes of cleaning, calibration, or repair;

(5) Is able to store data for at least 6 months and to display or print a record for official inspections as required; and

(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.

(c) Each BWMS must be designed and constructed with the following operating and emergency controls:

(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.

(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.

(3) Means to activate stop valves, as applicable, if the BWMS fails.

(4) Suitable manual by-passes or overrides to protect the safety of the vessel and personnel in the event of an emergency.

(5) Means that compensate for a momentary loss of power during operation of the BWMS so that unintentional discharges do not occur.

(6) Means of automatic operation for BWMS installed in unoccupied machinery spaces, from the time placed online until the time secured.

(7) Adequate alarms for the unintentional release of active substances, preparations, relevant chemicals, or hazardous materials used in or produced by the BWMS.

(d) 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. Certificates issued under §162.060–10(g) for systems approved for installation in hazardous locations must be so noted.

(e) To ensure continued operational performance of the BWMS without interference, the following conditions must be incorporated into the design:

(1) 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.

(2) 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.

(3) 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.

(f) 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.

(g) 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.

(h) 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) A means of indicating the amount and concentration of any chemical in the BWMS that is necessary for its effective operation.

(2) A means of indicating when chemicals must be added for the proper continued operation of the BWMS.

(3) Sensors and alarms in all spaces that may be impacted by a malfunction of the BWMS.

(4) A means of monitoring all active substances and preparations and relevant chemicals in the treated discharge.

(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.

(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.

§ 162.060–22 Marking requirements.

(a) Each ballast water management system (BWMS) manufactured under Coast Guard approval must have a nameplate which is securely fastened to the BWMS and plainly marked by the manufacturer with the information listed in paragraph (b) of this section.

(b) Each nameplate must include the following information:

(1) Coast Guard approval number assigned to the BWMS in the certificate of approval.

(2) Name of the manufacturer.

(3) Name and model number of the BWMS.

(4) The manufacturer's serial number for the BWMS.

(5) The month and year of manufacture completion.

(6) The maximum allowable working pressure for the BWMS.

(c) The information required by paragraph (b) of this section must appear on a nameplate attached to, or in lettering on, the BWMS. The nameplate 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.

[USCG–2001–10486, 77 FR 17311, Mar. 23, 2012, as amended by 77 FR 33970, Jun. 8, 2012]

§ 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 m^3/hr;

(2) Treatment of a minimum of 200 m^3 of challenge water with the BWMS;

(3) Pumping of a minimum of 200 m^3 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.

(d) The BWMS must be tested in water conditions for which it will be approved. For each set of test cycles, a salinity range must be chosen. With respect to the salinity of water bodies where the BWMS is intended to be used, the challenge water used in the test set-up must have dissolved and particulate content as described in the ETV Protocol.

(e) The approval certificate issued in accordance with §162.060–10(g) will list the salinity ranges for which the BWMS is approved.

(f) The BWMS must be tested at its rated capacity or as specified in paragraph (f)(1) of this section for each test cycle and must function to the manufacturer's specifications during the test.

(1) Treatment equipment may be downsized for land-based testing, but only when the following criteria are met:

(i) Treatment equipment with a treatment rated capacity (TRC) equal

to or less than 200 m^3/h must not be downscaled.

(ii) Treatment equipment with a TRC greater than 200 m^3/h but less than 1,000 m^3/h may be downscaled to a maximum of 1:5 scale, but must not be less than 200 m^3/h.

(iii) Treatment equipment with a TRC equal to or greater than 1,000 m^3/h may be downscaled to a maximum of 1:100 scale, but must not be less than 200 m^3/h.

(iv) The manufacturer of the BWMS must demonstrate by using mathematical modeling, computational fluid dynamics modeling, and/or by calculations, that any downscaling will not affect the ultimate functioning and effectiveness onboard a vessel of the type and size for which the BWMS will be approved.

(2) Greater scaling may be applied and lower flow rates used other than those described in paragraph (f)(1) of this section if the manufacturer can provide evidence from full-scale shipboard testing, in accordance with paragraph (f)(1)(iv) of this section, that greater scaling and lower flow rates will not adversely affect the testing's ability to predict full-scale compliance with the BWDS. The procedures of § 162.060–10(b)(1) of this subpart must be followed before scaling of flow rates other than those provided in paragraph (f)(1) of this section may be used.

(g) The test set-up, TRC, and scaling of all tests (including mathematical and computational fluid dynamics modeling) must be clearly identified in the Experimental Design section of the Test Plan.

§ 162.060–28 Shipboard testing requirements.

(a) The ballast water management system (BWMS) manufacturer is responsible for making all arrangements for a vessel on which to conduct shipboard tests, including the provision and installation of a BWMS.

(b) Shipboard tests must be conducted throughout a period of operation of at least 6 months. During the period of testing, all ballast water discharged to waters of the United States must be treated by the BWMS.

(c) BWMS approved under this subpart must undergo shipboard tests and evaluations that meet the requirements of this section. The shipboard testing will verify—

(1) That the BWMS under consideration for approval, when installed and operated in the vessel in a location and configuration consistent with its final intended use on operating vessels (e.g., in the engine room or pump room), consistently results in the routine discharge of ballast water that meets the ballast water discharge standard (BWDS) requirements of 33 CFR part 151, subparts C and D; and

(2) That the operating and maintenance parameters identified by the manufacturer in the Operation, Maintenance, and Safety Manual (OMSM) are consistently achieved.

(d) The BWMS to be tested must be installed and operated in the vessel in a location and configuration consistent with its final intended use on operating vessels. Vessel crew must operate the BWMS during testing.

(e) The vessel used as a platform for shipboard testing under this section must be selected to meet the following criteria:

(1) The volumes and rates of ballast water used and treated are representative of the upper end of the treatment rated capacity for which the BWMS is intended to be used. Vessel tank size and flow rates must be equal to or exceed those used during land-based tests.

(2) The circumstances of the vessel's operation during the period of shipboard testing provide an acceptable range of geographic and seasonal variability conditions.

(i) The source water used for testing is representative of harbor or coastal waters. Testing must include temperate, semi-tropical, or tropical locations with ambient organism concentrations that will provide a significant challenge to the efficacy of the BWMS.

(ii) Concentrations of organisms greater than or equal to 50 micrometers, and organisms less than 50 micrometers and greater than or equal to 10 micrometers in the source water must exceed 10 times the maximum permitted values in the BWDS.

(3) The ports that the vessel visits provide adequate availability of transportation and scientific support needed to accomplish the necessary sampling and analytical procedures during the shipboard tests.

(f) The vessel's ballast water system must be provided with sampling ports arranged in order to collect representative samples of the vessel's ballast water. In addition to the sampling ports designed and installed in accordance with the specifications in the ETV Protocol (incorporated by reference, *see* §162.060–5), sampling ports must be located—

(1) As close as practicable to the BWMS prior to treatment to determine concentrations of living organisms upon uptake;

(2) As close as practicable to the BWMS overboard outlet prior to the discharge point to determine concentrations of living organisms prior to discharge; and

(3) Elsewhere as necessary to ascertain the proper functioning of the BWMS.

(g) All test results must be reported in accordance with paragraph (i) of this section. The efficacy of the BWMS must be confirmed during at least five consecutive valid test cycles.

(1) A test cycle entails—

(i) The uptake of ballast water by the vessel;

(ii) The storage of ballast water on the vessel;

(iii) Treatment of the ballast water by the BWMS, except in control tanks, if used, with no fine-tuning or adjustment of the system except as specifically detailed in the OMSM; and

(iv) The discharge of ballast water from the vessel.

(2) All test cycles must include quantification of the water quality parameters on uptake.

(3) All test cycles must include discharge tests and quantification of the concentration of living organisms in the treated ballast water on discharge. Sampling and analysis for living organisms will be in accordance with the ETV Protocol.

(4) A test cycle must meet the following criteria in order to be considered valid:

(i) The uptake of the source water must be conducted in accordance with paragraph (e)(2)(i) of this section.

(ii) Source waters must be analyzed for organisms greater than or equal to 50 micrometers and organisms less than 50 micrometers and greater than or equal to 10 micrometers. To simplify the testing program, these source water samples need only be collected and properly preserved and transported for counting by trained microscopists in land-based laboratories. The reported data by taxa (to the lowest reasonably identifiable taxonomic grouping) will be used to characterize the source water biological test conditions.

(iii) The BWMS must operate successfully as designed, maintaining control of all set points and treatment processes, including any pre-discharge conditioning to remove or neutralize residual treatment chemicals or by-products.

(iv) All design or required water quality parameters must be met for the discharged water.

(v) Whole effluent toxicity testing must be conducted in accordance with the December 2008 Environmental Protection Agency (EPA) Vessel General Permit (VGP) requirements (VGP Section 5.8; available at *http://www.epa.gov/npdes/pubs/vessel_vgp_permit.pdf*).

(5) The source water for all test cycles must be characterized by measurement of water quality parameters as follows:

(i) For all BWMS tests, salinity, temperature, and turbidity must be measured either continuously during or at the beginning, middle, and end of the period of ballast water uptake, as appropriate and practicable for the parameters to be measured.

(ii) Water quality parameters (e.g., dissolved and particulate organic material, pH, etc.) that may affect the efficacy of BWMS that make use of active substances or other processes, or water quality parameters identified by the manufacturer and/or the independent laboratory as being critical, must be measured either continuously during or at the beginning, middle, and end of the period of ballast water uptake, as appropriate and practicable for the parameters to be measured.

(h) Samples of ballast water must be collected from in-line sampling ports in accordance with the sampling specifications in the ETV Protocol.

(i) The following information must be documented during the entire period of BWMS testing operations conducted on the vessel:

(1) All ballast water operations, including volumes and locations of uptake and discharge.

(2) All test cycles, even those in which the BWMS failed to meet the BWDS, must be documented. The possible reasons for an unsuccessful test cycle must be investigated and included in the Test Report.

(3) All weather conditions and resultant effects on vessel orientation and vibration.

(4) Scheduled maintenance performed on the BWMS.

(5) Unscheduled maintenance and repair performed on the BWMS.

(6) Data for all engineering parameters monitored as appropriate to the specific BWMS.

(7) Consumption of all solutions, preparations, or other consumables necessary for the effective operation of the BWMS.

(8) All parameters necessary for tracking the functioning of the control and monitoring equipment.

(9) All instrument calibration methods and frequency of calibration.

(j) All measurements for numbers and viability of organisms, water quality parameters, engineering performance parameters, and environmental conditions must be conducted in accordance with the ETV Protocol. Where alternative methods are necessary, given constraints of the BWMS and/or the vessel, standard methods from recognized bodies such as EPA (in 40 CFR part 136), the International Standards Organization, or others accepted by the scientific community must be used, and must be accepted in advance by the Coast Guard.

(k) Test vessels discharging treated ballast water into the waters of the United States must be enrolled in the U.S. Coast Guard's Shipboard Technology Evaluation Program. Test vessels discharging treated ballast water into waters of other countries must secure all necessary approvals and permits required for discharges of treated ballast water.

§ 162.060–30 Testing requirements for ballast water management system (BWMS) components.

(a) The electrical and electronic components, including each alarm and control and monitoring device of the BWMS, must be subjected to the following environmental tests when in the standard production configuration:

(1) A resonance search vertically up and down, horizontally from side to side, and horizontally from end to end, at a rate sufficiently low as to permit resonance detection made over the following ranges of oscillation frequency and amplitude:

(i) At 2 to 13.3 Hz with a vibration amplitude of ±1 mm.

(ii) At 13.2 to 80 Hz with an acceleration amplitude of ± 0.7 g.

(2) The components must be vibrated in the planes specified in paragraph (a)(1) of this section at each major resonant frequency for a period of 4 hours.

(3) In the absence of any resonant frequency, the components must be vibrated in each of the planes specified in paragraph (a)(1) of this section at 30 Hz with an acceleration of ± 0.7 g for a period of 4 hours.

(4) Components that may be installed in exposed areas on the open deck or in enclosed spaces not environmentally controlled must be subjected to a low temperature test of −25 °C and a high temperature test of 55 °C for a period of 2 hours at each temperature. At the end of each test, the components are to be switched on and must function normally under the test conditions.

(5) Components that may be installed in enclosed spaces that are environmentally controlled, including an engine room, must be subjected to a low temperature test at 0 °C and a high temperature test at 55 °C, for a period of 2 hours at each temperature. At the end of each test, the components are to be switched on and must function normally under the test conditions.

(6) Components must be switched off for a period of 2 hours at a temperature of 55 °C in an atmosphere with a relative humidity of 90 percent. At the end of this period, the components must be switched on and must operate

satisfactorily for 1 hour under the test conditions.

(7) Components that may be installed in exposed areas on the open deck must be subjected to tests for protection against heavy seas in accordance with IP 56 of publication IEC 60529 (incorporated by reference, *see* §162.060–5) or its equivalent.

(8) Components must operate satisfactorily with a voltage variation of ± 10 percent together with a simultaneous frequency variation of ± 5 percent, and a transient voltage of ± 20 percent together with a simultaneous transient frequency of ± 10 percent and transient recovery time of 3 seconds.

(9) The components of a BWMS must be designed to operate when the vessel is upright and inclined at any angle of list up to and including 15° either way under static conditions and 22.5° under dynamic, rolling conditions either way and simultaneously inclined dynamically (pitching) 7.5° by bow or stern. Deviation from these angles may be permitted only upon approval of a written waiver submitted to the Coast Guard in accordance with §162.060–10(b)(1) of this subpart, taking into consideration the type, size, and service conditions and locations of the vessels and operational functioning of the equipment for where the system will be used. Any deviation permitted must be documented in the type-approval certificate.

(10) The same component(s) must be used for each test required by this section and testing must be conducted in the order in which the tests are described, unless otherwise authorized by the Coast Guard.

(b) 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.

§162.060–32 Testing and evaluation requirements for active substances, preparations, and relevant chemicals.

(a) 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.

(b) 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. This assessment must accompany the application package submitted to the Coast Guard.

§162.060–34 Test Report requirements.

The Test Report prepared and submitted by an independent laboratory must be formatted as set out below. The Test Report must include, in addition to the information required by 46 CFR 159.005–11, information as follows:

(a) Summary statement with the following information:

(1) Name of the independent laboratory (IL) and all test facilities, subcontractors, and test organizations involved in testing the ballast water management system (BWMS).

(2) Name of manufacturer.

(3) BWMS model name.

(4) The IL's assessment that the BWMS—

(i) 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;

(ii) Is designed and constructed according to the requirements of §162.060–20 of this subpart;

(iii) Is in compliance with all applicable U.S. Environmental Protection Agency (EPA) requirements;

(iv) Operates at the rated capacity, performance, and reliability as specified by the manufacturer;

(v) Contains control and monitoring equipment that operates correctly;

(vi) Was installed in accordance with the technical installation specification of the manufacturer for all tests; and

(vii) Was used to treat volumes and flow rates of ballast water during the shipboard tests consistent with the normal ballast operations of the vessel.

(b) Executive summary.

(c) Introduction and background.

(d) Description of the BWMS.

(e) For each test conducted, summary descriptions of—

(1) Test conditions;

(2) Experimental design;

(3) Methods and procedures; and

(4) Results and discussion.

(f) Appendices, including—

(1) Complete Test Plans for land-based, shipboard, and component tests, for which an EPA Environmental Technology Verification (ETV) Verification Report produced in accordance with the ETV Protocol can substitute for the land-based test plan;

(2) Manufacturer supplied Operation, Maintenance, and Safety Manual that meets the requirements of §162.060–38 of this subpart;

(3) Data generated during testing and evaluations;

(4) Quality Assurance and Quality Control records;

(5) Maintenance logs;

(6) Relevant records and tests results maintained or created during testing;

(7) Information on hazardous materials, active substances, relevant chemicals, and pesticides as detailed in paragraph (g) of this section; and

(8) Permits, registrations, restrictions, and regulatory limitations on use.

(g) 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:

(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) of this subpart.

(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.

§162.060–36 Quality Assurance Project Plan (QAPP) requirements.

The approval testing and evaluation process must contain a rigorous Quality Assurance and Quality Control program consisting of a QAPP developed in accordance with ISO/IEC 17025:2005(E), as amended ISO/IEC 17025:2005/Cor.1:2006(E) (incorporated by reference, *see* §162.060–5). The independent laboratory performing approval tests and evaluations is responsible for ensuring the appropriate Quality Assurance and Quality Control procedures are implemented.

§162.060–38 Operation, Maintenance, and Safety Manual (OMSM).

(a) Each OMSM must include the following sections:

(1) Table of contents.

(2) Manufacturer's information.

(3) Principles of ballast water management system (BWMS) operation, including—

(i) A complete description of the BWMS, methods and type(s) of technologies used in each treatment stage of the BWMS;

(ii) The theory of the BWMS' operation;

(iii) Any process or technology limitations of the BWMS;

(iv) Performance ranges and expectations of the system; and

(v) A description of the locations and conditions for which the BWMS is intended.

(4) Major system components and shipboard application, including—

(i) A general description of the materials used for construction and installation of the BWMS;

(ii) A list of each major component that may be fitted differently in different vessels with a general description of the different arrangements schemes;

(iii) Any vessel type(s), services, or locations where the BWMS is not intended to be used;

(iv) Maximum and minimum flow and volume capacities of the BWMS;

(v) The dimensions and weight of the complete BWMS and required connection and flange sizes for all major components;

(vi) A description of all actual or potential effects of the BWMS on the vessel's ballast water, ballast water tanks, and ballast water piping and pumping systems;

(vii) A list of all active substances, relevant chemicals, and pesticides generated or stored onboard the vessel to be used by the BWMS; and

(viii) Information on whether the BWMS is designed to be used in hazardous locations.

(5) System and major system component drawings as applicable, including—

(i) Process flow diagram(s) of the BWMS showing the main treatment processes, chemicals, and monitoring and control devices for the BWMS;

(ii) Footprint(s), drawings, and system schematics showing all major components and arrangements;

(iii) Drawings, containing a bill of materials, for the pumping and piping arrangements, and all related equipment provided with the BWMS;

(iv) All treatment application points, waste or recycling streams, and all sampling points integral to the BWMS;

(v) All locations and the sizes of all piping and utility connections for power, water, compressed air or other utilities as required by the BWMS;

(vi) Electrical wiring diagrams that include the location and electrical rating of power supply panels and BWMS control and monitoring equipment;

(vii) Unit(s), construction materials, standards, and labels on all drawings of equipment, piping, instruments, and appurtenances; and

(viii) An index of all drawings and diagrams.

(6) A description of the BWMS's control and monitoring equipment and how it will be integrated with the existing shipboard ballast system, including—

(i) Power demand;

(ii) Main and local control panels;

(iii) Power distribution system;

(iv) Power quality equipment;

(v) Instrumentation and control system architecture;

(vi) Process control description;

(vii) Operational set points, control loops, control algorithms, and alarm settings for routine maintenance, and emergency operations; and

(viii) All devices required for measuring appropriate parameters, such as pressure, temperature, flow rate, water quality, power, and chemical residuals.

(7) A description of all relevant standard operating procedures including, but not limited to—

(i) BWMS start-up and shutdown procedures and times;

(ii) Emergency shutdown and system by-pass procedures;

(iii) Requirements to achieve treatment objectives (e. g., time following initial treatment, critical dosages, residual concentrations, etc);

(iv) Operating, safety, and emergency procedures;

(v) BWMS limitations, precautions, and set points;

(vi) Detailed instructions on operation, calibration and zeroing of each monitoring device used with the BWMS; and

(vii) Personnel requirements for the BWMS, including number and types of personnel needed, labor burden, and operator training or specialty certification requirements.

(8) A description of the preventive and corrective maintenance requirements of the BWMS, including—

(i) Inspection and adjustment procedures;

(ii) Troubleshooting procedures;

(iii) An illustrated list of parts and spare parts;

(iv) A list of recommended spare parts to have during installation and operation of the BWMS;

(v) Use of tools and test equipment in accordance with the maintenance procedures; and

(vi) Point(s) of contact for technical assistance.

(9) A description of the health and safety risks to the personnel associated with the installation, operation, and maintenance of the BWMS including, but not limited to—

(i) The storage, handling, and disposal of any hazardous wastes;

(ii) Any health and safety certification/training requirements for personnel operating the BWMS; and

(iii) All material safety data sheets for hazardous or relevant chemicals used, stored, or generated by or for the system.

(b) If any information in the OMSM changes as a result of approval testing and evaluations, a new OMSM must be submitted.

§ 162.060–40 Requirements for Independent Laboratories (ILs).

(a) For designation by the Coast Guard as an independent laboratory for the evaluation, inspection, and testing of BWMS, an independent laboratory must demonstrate compliance with 46 CFR 159.010–3, 46 CFR 159.010–5, and 46 CFR 159.010–11 through 159.010–19.

(b) Each request for designation as an independent laboratory authorized under paragraph (a) of this section must be delivered to the Commandant (CG–ENG), Office of Design and Engineering Standards, U.S. Coast Guard, 2nd St. SW., Stop 7126, Washington, DC 20593–7126, in a written or electronic format.

(c) A list of independent laboratories designated by the Coast Guard under paragraph (b) of this section may be found at *http://cgmix.uscg.mil/,* or may be obtained by contacting the Commandant (CG–ENG), Office of Design and Engineering Standards, U.S. Coast Guard, 2100 2nd St. SW., Stop 7126, Washington, DC 20593–7126.

§ 162.060–42 Responsibilities for Independent Laboratories (ILs).

(a) Upon receipt of a request from a manufacturer for approval testing of a ballast water management system (BWMS), the independent laboratory will conduct a readiness evaluation and determine the acceptability of the BWMS for testing.

(1) The readiness evaluation will examine the design and construction of the BWMS to determine whether there are any fundamental problems that might constrain the ability of the BWMS to manage ballast water as proposed by the manufacturer or to operate it safely onboard vessels. This evaluation must determine that the BWMS—

(i) Is designed and constructed according to the requirements of § 162.060–20 of this subpart;

(ii) Meets all existing safety and environmental regulatory requirements for all locations and conditions where the system will be operated during the testing and evaluation period; and

(iii) Meets the definition of a complete BWMS, as defined in this subpart, to include both ballast water treatment equipment and control and monitoring equipment. Only complete systems in the configurations in which they are intended for sale and use will be accepted for type-approval testing.

(2) The independent laboratory has the right to reject a proposed BWMS for type-approval testing if it does not satisfy the requirements in paragraph (b) of this section, is not deemed ready for approval testing or if, for technical or logistical reasons, that independent laboratory does not have the capability to accommodate the BWMS for testing or evaluation.

(3) Upon determination that the BWMS is ready for testing, the independent laboratory will notify the Commanding Officer, U.S. Coast Guard Marine Safety Center, 2100 2nd St. SW., Stop 7102, Washington, DC 20593–7102, and provide the estimated date for commencement of type-approval testing.

(b) The independent laboratory must prepare a written Test Plan for each approval test to be completed, in accordance with § 162.060–24 of this subpart.

(c) Prior to land-based testing, the independent laboratory must ensure that the BWMS supplied by the manufacturer is set up in accordance with the BWMS' Operation, Maintenance, and Safety Manual (OMSM).

(d) Prior to shipboard testing, the independent laboratory must ensure that the BWMS supplied by the manufacturer is installed in a vessel in accordance with the OMSM and the vessel's administration's requirements and can be tested in accordance with §162.060–28 of this subpart.

(e) Prior to commencing land-based or shipboard testing required under this subpart, the independent laboratory must require the BWMS manufacturer to sign a written statement to attest that the system was properly assembled and installed at the test facility or onboard the test vessel.

(f) The independent laboratory or its subcontractor(s) must conduct all approval testing and evaluations in accordance with testing requirements of this subpart and within the range or rated capacity of the BWMS.

(g) Upon completion of all approval tests and evaluations, the independent laboratory must follow the requirements of §162.060–34 of this subpart and forward a complete Test Report to the Commanding Officer, U.S. Coast Guard Marine Safety Center, 2100 2nd St. SW., Stop 7102, Washington, DC 20593–7102, or by email to *msc@uscg.mil*.

[USCG–2001–10486, 77 FR 17311, Mar. 23, 2012, as amended by 77 FR 33970, Jun. 8, 2012]

Subpart 162.161—Fixed Clean Agent Fire Extinguishing Systems

SOURCE: USCG–2006–24797, 77 FR 33886, Jun. 7, 2012, unless otherwise noted.

§ 162.161–1 Scope.

(a) This subpart applies to each engineered fixed fire extinguishing system using a halocarbon or an inert gas as an agent. It does not apply to pre-engineered systems.

(b) Each system must be designed for protection against fires in both Class B flammable liquids and Class C energized electrical equipment, as those hazard classes are defined in NFPA 2001 (incorporated by reference, see §162.161–2).

(c) Each system must meet the requirements of this subpart, be listed or approved by an independent laboratory approved by the Coast Guard and listed at *http://cgmix.uscg.mil/*, bear the mark of the laboratory, and be approved by the Coast Guard under 46 CFR 159.005–13.

§ 162.161–2 Incorporation by reference.

(a) Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish a notice of change in the FEDERAL REGISTER and the material must be available to the public. All approved material is available for inspection at U.S. Coast Guard, Office of Operating and Environmental Standards (CG–OES), 2100 2nd Street SW., Stop 7126, Washington, DC 20593–7126, and is available from the sources indicated in this section, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

(b) International Maritime Organization (IMO), Publications Section, 4 Albert Embankment, London SE1 7SR, United Kingdom, telephone +44 (0)20 7735 7611, *www.imo.org*.

(1) MSC/Circ. 848, Revised Guidelines for The Approval of Equivalent Fixed Gas Fire-Extinguishing Systems, as Referred to in SOLAS 74, for Machinery Spaces and Cargo Pump-Rooms (June 8, 1998), (''MSC/Circ. 848''), IBR approved for §162.161–6.

(2) MSC.1/Circ. 1267, Amendments to Revised Guidelines for the Approval of Equivalent Fixed Gas Fire-Extinguishing Systems, as Referred to in SOLAS 74, for Machinery Spaces and Cargo Pump-Rooms (MSC/Circ. 848) (June 4, 2008), (''MSC.1/Circ. 1267''), IBR approved for §162.161–6.

(c) National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169–7471, telephone 617–770–3000, *http://www.nfpa.org*.

(1) NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems, 2008 Edition, (''NFPA 2001''), IBR approved for §§162.161–1 and 162.161–3.