

CLASS PROGRAMME

Type approval

DNVGL-CP-0209

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Ballast water management systems



FOREWORD

DNV GL class programmes contain procedural and technical requirements including acceptance criteria for obtaining and retaining certificates for objects and organisations related to classification.

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Any comments may be sent by e-mail to rules@dnvgl.com

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CHANGES – CURRENT

This is a new document.

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SECTION 1 GENERAL

1 Introduction

1.1 Objective

The objective of this class programme (CP) is to give a description for the type approval (TA) of Ballast water management systems.

For a description of the DNV GL type approval scheme in general and further information on conditions and procedures for obtaining DNV GL TA certificate, see class programme [CP 0338](#) - DNV GL type approval scheme.

The procedures and requirements described in this CP are applicable for obtaining DNV GL TA certificate based on requirements in:

- DNV GL rules [RU SHIP Pt.6 Ch.7 Sec.1](#)
- IMO: International convention for the control and management of ships' ballast water and sediments
- Guidelines for approval of ballast water management systems (G8), Res. MEPC.174(58) Appendix
- Procedure for approval of ballast water management systems that make use of active substances (G9), Res. MEPC.169(57) Appendix

Guidance note:

DNV GL also provides USCG TA according to 46 CFR 162.060.60. For manufacturers who apply for USCG TA, the DNV GL TA will also be covered. For these cases, please contact DNV GL for further information.

This class programme is not applicable for obtaining EU Marine Equipment Directive (MED) certificates. Visit www.dnvgl.com for information on MED certification.

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1.2 Scope

This CP gives a description of the procedures and requirements related to documentation, design and type testing applicable for TA of Ballast water management systems (BWMS).

This CP does not set the design requirements to the Ballast water management systems. TA is based on compliance with design requirements given in the DNV GL rules and/or other regulations and standards. The CP describes the applicable design requirements and how to document compliance with the requirements in order to obtain a TA certificate for the equipment. This includes, where relevant, technical requirements for how the type tests shall be performed.

1.3 Application

TA of equipment in accordance with this CP is not mandatory, but may be used as an alternative to case by case design approvals for equipment to be installed on DNV GL classed vessels.

A TA certificate in accordance with this CP will confirm compliance with the requirements in the DNV GL rules as specified in [\[1.1\]](#). The TA certificate will not confirm compliance with requirements in other parts of the rules. In case additional requirements in other parts of the rules shall be covered by the TA certificate, this shall be specified in the application for TA and will be stated in the TA certificate.

2 Documentation

For TA of Ballast water management systems, the following documentation shall be submitted. This list can vary case by case and additional documentation may be requested.

- application for TA
- main drawings of the system

- general arrangements
- P&ID
- electrical/electronic wiring diagrams
- sampling points
- bill of materials
- technical manuals – including:
 - system process description
 - system process limitations
 - operational instructions
 - specification of main components
 - maintenance instructions
 - safety requirements
 - installation specifications
 - troubleshooting procedures
 - commissioning procedure
 - scaling documentation
- functional description
- corrosion tests
- land-based and shipboard test plans as required in IMO guideline G8 Appendix Part 2, Section 2.3 and Section 2.2:
 - quality management plan (QMP) addressing the quality control management structure and policies of the testing body (including subcontractors and outside laboratories). IMO guideline G8 Appendix Part 2, Section 2.1. The QMP may be included in the QAPP.
 - quality assurance project plan (QAPP) specifically produced for the BWMS to be approved. IMO guideline G8 Appendix Part 2, Section 2.1.
 - discharge permit for the land based test facility and the treated ballast water if required by national authorities.

SECTION 2 ASSESSMENT OF MANUFACTURED PRODUCTS

1 General

The manufacturer of the equipment shall submit information regarding the design, construction, operation and functioning of the Ballast water management system in accordance with [Sec.1 \[2\]](#) and G8 Part 1 of the Appendix. This information shall be the basis for a first evaluation of suitability. Further assessment shall be performed to conclude if the system is making use of an active substance or not. Following the first evaluation, a function test shall be performed to verify operation according to technical manuals and compliance with the DNV GL rules.

The Ballast water management system shall be tested for type approval in accordance with the procedures described in G8 Parts 2 and 3 of the Appendix.

A type approval certificate will be issued based on compliance with the DNV GL rules and procedures for type approval in accordance with G8 Parts 2 and 3 of the appendix.

Ballast water management systems that make use of active substances or preparations containing one or more active substance shall be approved by IMO. The objective of the approval is to determine the acceptability of the active substances or preparation concerning ship safety, human health and aquatic environment, as described in G9.

1.1 Design requirements

The Ballast water management systems shall comply with the relevant requirements of the following publications:

- DNVGL rules [RU SHIP Pt.6 Ch.7 Sec.1](#)
- DNVGL rules [RU SHIP Pt.4 Ch.6 Piping systems](#)
- DNVGL rules [RU SHIP Pt.4 Ch.8 Electrical installations](#)
- DNVGL rules [RU SHIP Pt.4 Ch.9 Control and monitoring systems](#)
- DNVGL class guideline [CG 0339](#)
- International convention for the control and management of ships' ballast water and sediments
- Guidelines for approval of ballast water management systems (G8), Res. MEPC.174(58) Appendix
- Procedure for approval of ballast water management systems that make use of active substances (G9), Res. MEPC.169(57) Appendix.

1.2 Pre-test evaluation

The manufacturer of the equipment should submit information regarding the design, construction, operation and functioning of the Ballast Water Management System in accordance with G8 Part 1 of the Appendix and according to [Sec.1 \[2\]](#). This information should be the basis for a first evaluation of suitability.

The documentation evaluation is carried out to assess that the BWMS is in compliance with requirements as stated in [\[1.1\]](#).

1.3 Type testing

Each type of Ballast Water Management System shall be subject to the following prototype tests witnessed by a DNV GL surveyor:

- visual inspection verifying compliance with approved documentation
- functional test
- performance testing in shipboard and land based tests as described in G8 Parts 2 of the Appendix
- Environmental tests according to G8 Parts 3 of the Appendix and DNVGL class guideline [CG 0339](#).

DNV GL will perform an assessment of documentation of test results from shipboard and land based tests.

The Ballast water management system will be type approved with a specific rated capacity. However, the type approved system may be installed in parallel to increase the total capacity. Such increased capacity does not require re-approval provided that each module consists of the same components and has the same capacity as the system, which was initially granted a type approval.

Different sizes of BWMS shall be assessed based on scaling documentation. Type testing may be required on a case by case basis.

1.4 Type approval certificate

When the design assessment and type testing are successfully completed, and an initial assessment of the manufacturing process has been performed, a type approval certificate will be issued to the manufacturer for the conformity of the design and performance of the product type.

The type approval certificate will on a format as set forth in the Appendix of G8.

The type approval certificate is valid for 5 years.

1.5 Makers certificate

The manufacturer shall furnish each BWMS with a certificate. The certificate shall contain:

- declaration that the design of the BWMS conforms to the basis for the type approval
- details of the shop where testing was carried out
- reference to DNVGL type approval certificate.



CHANGES – HISTORIC

There are currently no historical changes for this document.

DNV GL

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