INTERNATIONAL MARITIME ORGANIZATION

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HARMFUL AQUATIC ORGANISMS IN BALLAST WATER

Information about a project on building a round robin facility for performance evaluation of test facilities and sampling and analysis devices

Submitted by Germany

SUMMARY

Executive summary:	Representative sampling and validated biological analyses are essential to fulfil the quality criteria needed to provide solid and robust data for type approving ballast water management systems. Germany intends to set up a project named "BAQUA", aiming at creating a round robin test facility that is independent and can i) verify the ability of test facilities to carry out the tests for type approval ii) be used for intercalibration exercises, and iii) test the performance of sampling and analysis devices.
Strategic direction:	2
High-level action:	2.0.1
Output:	2.0.1.2
Action to be taken:	Paragraph 8
Related documents:	BWM.2/Circ.42/Rev.1 and MEPC 66/INF.27

Introduction

1 During the type approval process for ballast water management systems (BWMS), test facilities (e.g. laboratories, institutes) carry out land-based and shipboard testing to assess if the BWMS are able to ensure that discharge waters are in compliance with the standard D-2 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004. The *Guidelines for approval of ballast water management systems* (G8) describe in part 1 that test facilities should have implemented appropriate quality control measures in accordance with recognized international standards acceptable to the Administration.

2 During the discussions on the review of the current *Guidelines for approval of ballast water management systems* (G8) it was agreed that test facilities should be able to prove their ability to meet the requirements of Guidelines (G8) to an appropriate standard (see the report of the Correspondence Group on the Review of Guidelines (G8), MEPC 69/4/6). The Correspondence Group did support the concept of test facilities being "certified" to appropriate standards in order to increase the confidence of Administrations and other interested parties in the quality of the test performance and results. Therefore, the test facilities performing tests should not only be independent, but should also have implemented appropriate quality assurance and control measures approved, certified, and audited by an independent accreditation body, or to the satisfaction of the Administration in accordance with appropriate internationally recognized quality assurance standards. In the view of Germany, test facilities should not only be accredited according to ISO/IEC 17025 (as appropriate) but rather proving their ability in practical tests, assuring that the test facility can produce comprehensible, valid, repeatable and comparable test results.

3 Therefore, during land-based and shipboard tests a test facility needs to fulfil a minimum quality standard. Representative sampling will form the basis for all following analytical steps within the BWMS type approval process. Representative sampling and validated biological and chemical analyses are the essential aspects necessary to fulfil the quality criteria needed to provide solid and robust data used by Administrations to make decisions. Errors generated during the sampling process cannot be corrected by any analytical operations. Consequently, a representative sampling is of utmost importance.

4 To demonstrate their capacity to carry out the testing of BWMS in accordance with appropriate quality standards, test facilities would have to provide detailed test protocols, standard operating procedures (SOPs) and possibly project operating procedures (POPs) to the approving administration. Furthermore, the periodical and continuous successful participation in special practical inter-comparative tests (interlaboratory, ring or round robin tests) would be highly beneficial to document the ability of the test facilities. Considering paragraph 6.4 of the *Guidelines for approval of ballast water management systems* (G8) a high level of comparability between test facilities with respect to test results and procedures would be desirable. At present, most Administrations receive documentation from a limited number of test facilities. Comparison with the approval process and data evaluation of other Administrations may be difficult. Therefore, direct intercalibration exercises would help to increase inter-comparability of the work of test facilities worldwide.

5 For the reasons indicated above, Germany has started a project named "BAQUA" (BAllast water test QUality Assurance), aiming at creating a round robin test facility (RRTF) to assess the performance, accuracy, and inter-comparability of test facilities regarding their ability of sampling, the suitability of their analysis devices and analyses, and, methods used. This RRTF could, at a later stage, also be used to assess sampling and analysis devices for port State control to ensure that representative samples can be collected for compliance monitoring. Furthermore, the RRTF will generate device-specific response factors (within the scope of qualifying examination). The German Federal Maritime and Hydrographic Agency (BSH) will launch BAQUA as a kind of follow-up project of the project on the Reliability of Ballast Water Test Procedures (ReBaT Project), which was completed recently.

6 The BAQUA project includes a 3-level approach. The first level will be the conception and construction of a special RRTF prototype in a small scale. The second level will aim at setting up a practically applicable larger scale installation whereas the third level will be at the level of implementation, i.e. carrying out the practical ring tests for representative sampling and analysis of ballast water in four steps:

Step 1: Representative isokinetic sampling of objects in the size range greater than or equal to 50 µm in minimum dimension.

Step 2: Representative isokinetic sampling of objects in the size range less than 50 µm in minimum dimension and greater than or equal to 10 µm in minimum dimension.

Step 3: Gentle sampling of aquatic organisms of different size ranges without any significant negative effect on viability.

Step 4: Regardless of the RRTF, step 4 will include an assessment of the ability of the test facility to carry out classic analytical tests with prepared biological samples for the quantification of viable aquatic organisms.

7 Germany is still in the preparation phase and appreciates any comments from interested parties and discussions regarding the design of the project (interested parties may contact: ballastwasser@bsh.de).

Action requested of the Committee

8 The Committee is invited to take note of the information contained in this document.

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ANNEX

SCHEMATIC REPRESENTATION OF THE PLANNED ROUND ROBIN TEST FACILITY (SINGLE SAMPLING LINE VERSION)