

Z17 Procedural Requirements for Service Suppliers

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Revision notes:

1. Rev.4 added in Annex, Section 10, 11 & 12, with reference in 3.1.2.
2. Rev.5 clarified applicability to thickness measurement companies in 3.1.1 and Annex 1, 1.1.
3. Rev.6 is to be uniformly implemented by IACS Societies and Associates from 1 January 2008.
4. Rev.7: Section 13 is added to Annex 1. This section applies to requests for recognition of test laboratories received on or after 1 January 2008.
5. Rev.8: Reference to IACS Recommendations 101 and 102 added.
6. Rev.9: Includes procedures for approval of test laboratories against res. MSC.288(87) and applies to requests for recognition of approval of testing laboratories received on or after 1 July 2013. However, deletion of the reference to PR 34 in Rev.9 applies from 1 July 2012.
7. Rev.10: Full document review carried out - Rev.10 is to be uniformly implemented by IACS Societies from 1 January 2016.
8. Rev.11: Full document review in order to verify the compliance with R.O. Code, IMO Res. MSC 349(92), carried out - Rev.11 is to be uniformly implemented by IACS Societies from 1 July 2016.
9. Rev.12: Section 15 of Annex 1 revised - Rev.12 is to be uniformly implemented by IACS Societies from 1 January 2018.
10. Rev.13: Section 3 of Annex 1 revised - Rev.13 is to be uniformly implemented by IACS Societies from 1 January 2019.
11. Rev.14: Section 13 of Annex 1 revised - Rev.14 is to be uniformly implemented by IACS Societies from 1 January 2020.
12. Rev.15: Section 5 revised, Section 17 of Annex 1 newly added - Rev.15 is to be uniformly implemented by IACS Societies from 1 July 2021.
13. Rev.16: Section 18 of Annex 1 newly added – Rev.16 is to be uniformly implemented by IACS Societies from 1 January 2022.

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(cont)**1. General**

1.1 To approve firms providing services, such as measurements, tests or maintenance of safety systems and equipment, the Society is to apply procedures in this unified requirement and relevant Annex 1.

2. Objective

2.1 The objective of this procedure is to set minimum requirements for approval and certification of service suppliers and is applicable to both initial and renewal audits.

3. Definitions

- **Manufacturer:** A company that manufactures equipment required to be periodically serviced and/or maintained.
- **Service Supplier (A Service Supplier or category of Service Supplier may be referred to here after simply as 'supplier'):** A person or company, not employed by an IACS Member, who at the request of an equipment manufacturer, shipyard, vessel's owner or other client acts in connection with inspection work and provides services for a ship or a mobile offshore unit such as measurements, tests or maintenance of safety systems and equipment, the results of which are used by surveyors in making decisions affecting classification or statutory certification and services.
- **Agent:** A Person or Company authorised to act for or to represent a Manufacturer or approved/recognized service supplier.
- **Subsidiary:** A Company partly or wholly owned by a Manufacturer or approved/recognized service supplier.
- **Subcontractor:** A Person or Company providing services to a Manufacturer or approved/recognized service supplier, with a formal contract defining the assumption of the obligations of the service supplier.

5. Procedure for Approval and Certification

5.1 Submission of documents

5.1.1 The following documents are to be submitted to the Society for review. General requirements concerning suppliers are given in 5.2, and specific requirements as relevant, in Annex 1.

- Outline of company, e.g. organisation and management structure, including subsidiaries to be included in the approval/certification
- List of nominated agents, subsidiaries and subcontractors
- Experience of the company in the specific service area
- For categories of Service Suppliers that require ~~authorization~~ certification from manufacturers, manufacturer's documentary evidence that the Service Supplier has been ~~authorized~~ certified or licensed to service the particular makes and models of equipment for which approval is sought shall be provided
- List of operators/technicians/inspectors documenting training and experience within the relevant service area, and qualifications according to recognised national, international or industry standards, as relevant
- Description of equipment used for the particular service for which approval is sought
- A guide for operators of such equipment
- Training programmes for operators/technicians/inspectors
- Check lists and record formats for recording results of the services referred to in Annex 1
- Quality Manual and/or documented procedures covering requirements in 5.5
- Documented procedures for communication with the crew prior to commencing work, so that it is safe to decommission the equipment being maintained, and to provide a safe system of work in place
- Evidence of approval/acceptance by other bodies, if any
- Information on the other activities which may present a conflict of interest
- Record of customer claims and of corrective actions requested by certification bodies
- Operators/technicians/inspectors documentation they have acknowledged the code of conduct

5.2 General requirements:

5.2.1 Extent of Approval – The supplier shall demonstrate, as required by 5.2.2 – 5.2.11, that it has the competence and control needed to perform the services for which approval is sought.

5.2.2 Training of personnel – The supplier is responsible for the qualification and training of its personnel to a recognised national, international or industry standard as applicable. Where such standards do not exist, the supplier is to define standards for the training and qualification of its personnel relevant to the functions each is authorised to perform. The personnel shall

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also have adequate experience and be familiar with the operation of any necessary equipment. Operators/technicians/inspectors shall have had a minimum of one year tutored on-the-job training. Where it is not possible to perform internal training, a program of external training may be considered as acceptable.

5.2.3 Supervision – The supplier shall provide supervision for all services provided. The responsible supervisor shall have had a minimum of two years of experience as an operator/technician/inspector within the activity for which the supplier is approved. For a supplier consisting of one person, that person shall meet the requirements of a supervisor.

5.2.4 Personnel records – The supplier shall keep records of the approved operators/technicians/inspectors. The record shall contain information on age, formal education, training and experience for the services for which they are approved.

5.2.5 Equipment and facilities – The supplier shall have the necessary equipment and facilities for the service to be supplied. A record of the equipment used shall be kept and available. The record shall contain information on maintenance and results of calibration and verifications. The Society shall assess and record the validity of previous measuring results when the equipment is found not to conform to requirements. The Society shall take appropriate action on the equipment affected.

5.2.6 Control of data:

When computers are used for the acquisition, processing, recording, reporting, storage, measurement assessment and monitoring of data, the ability of computer software to satisfy the intended application shall be documented and confirmed by the service supplier. This shall be undertaken prior to initial use and reconfirmed as necessary.

Note: Commercial off-the-shelf software (e.g. wordprocessing, database and statistical programmes) in general use within their designed application range may be considered to be sufficiently validated and do not require any subsequent confirmation.

5.2.7 Where several servicing stations are owned by a given company, each station is to be assessed and approved except as specified in 5.5.3

5.2.8 Procedures – The supplier shall have documented work procedures covering all services supplied.

5.2.9 Subcontractors – The supplier shall give information of agreements and arrangements if any parts of the services provided are subcontracted. Particular emphasis shall be given to quality management by the supplier in following-up such subcontracts. Subcontractors providing the services of the approved service supplier shall also meet the requirements of section 5.

5.2.10 Verification – The supplier shall verify that the services provided are carried out in accordance with approved procedures.

5.2.11 Reporting – The report shall be prepared in a form acceptable to the Society. The report should detail the results of inspections, measurements, tests, maintenance and/or repairs carried out. Special guidelines may be given in Annex 1. The report shall include a copy of the Certificate of Approval.

5.2.12 Documented procedures and instructions should be available for the recording of damages and defects found during inspection, servicing and repair work. This documentation is to be made available upon request.

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5.3 Auditing of the Supplier – Upon reviewing the submitted documents with satisfactory result, the supplier is audited in order to ascertain that the supplier is duly organised and managed in accordance with the submitted documents, and that it is considered capable of conducting the services for which approval/certification is sought.

5.4 Certification is conditional on a practical demonstration of the performance of the specific service as well as satisfactory reporting being carried out. At renewal audits, evidence of performance, verified by class surveyor, since the previous audit is sufficient to satisfy this requirement.

5.5 Quality System

5.5.1 The supplier shall have a documented system covering at least the following:

- code of conduct for the relevant activity
- maintenance and calibration of equipment
- training programmes for operators/technicians/inspectors
- supervision and verification to ensure compliance with operational procedures
- recording and reporting of information
- quality management of subsidiaries, agents and subcontractors
- job preparation
- periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents

5.5.2 A documented Quality system complying with the most current version of ISO 9000 series and including the above items, would be considered acceptable.

5.5.3 If a manufacturer of equipment (and/or its service supplier) applies to a Society for inclusion of its nominated agents and/or subsidiaries (excluding any subcontractor), in the approval, then it must have implemented a quality system certified in accordance with the most current version of ISO 9000 series. The quality system must contain effective controls of the manufacturer's (and/ or service supplier's) agents and/or subsidiaries. The nominated agents/subsidiaries must also have in place an equally effective quality system complying with the most current version of ISO 9000 series. Such approvals shall be based upon an evaluation of the quality system implemented by the parent company against the most current version of ISO 9000 series. The Society may require follow-up audits on such agents or subsidiaries against the most current version of ISO 9000 series to confirm adherence to this quality system.

5.6 Service Suppliers Relations with the Equipment Manufacturer

5.6.1 A company which works as a service station for manufacturer(s) of equipment (and as a service supplier in this field), shall be assessed by the manufacturer(s) and nominated as their agent. The manufacturer shall ensure that appropriate instruction manuals, material etc. are available for the agent as well as proper training of the agent's technicians. Such suppliers shall be approved either on a case by case basis, or in accordance with 5.5.3.

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6.1 Upon satisfactory completion of both the audit of the supplier and the demonstration test, as applicable, the Society may issue a Certificate of Approval stating that the supplier's service operation system has been found to be satisfactory and that the results of services performed in accordance with that system may be accepted and utilised by the Society's Surveyors in making decisions affecting classification or statutory certification, as relevant. The Certificate shall clearly state the type and scope of services and any limitations or restrictions imposed including type of equipment and/or names of Manufacturers of equipment where this is a limiting restraint. The supplier may also be included in the Society's record of approved service suppliers.

6.2 Renewal or endorsement of the Certificate is to be made at intervals not exceeding five (5) years by verification through audits that approved conditions are maintained or, where applicable, on expiry of the supplier's approval received from an equipment Manufacturer, whichever comes first. In the latter case, the Society is to be informed in due course by the Service Supplier. Individual Societies may require renewal or endorsement of the Certificate at intervals shorter than five (5) years and may require intermediate audits. For firms engaged in thickness measurements, renewal/endorsement of the Certificate is to be made at intervals not exceeding 3 years by verification that original conditions are maintained.

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(cont)**7. Information Regarding Alterations to the Certified Service Operating System**

7.1 When any alteration to the certified service operating system of the supplier is made, such alteration is to be immediately informed to the Society. Re-audit may be required when deemed necessary by the Society.

8. Cancellation of Approval

8.1 The Society reserves the right to cancel the approval and to inform the IACS Members accordingly (For Firms engaged in thickness measurements refer to PR23).

8.2 Approval may be cancelled in the following cases:

8.2.1 Where the service was improperly carried out or the results were improperly reported.

8.2.2 Where a Surveyor finds deficiencies in the approval service operating system of the supplier and appropriate corrective action is not taken.

8.2.3 Where alterations have been made to the Company's Quality System relevant to the service supplier certificates, without written notification to the Society.

8.2.4 Where the intermediate audit, if requested as per 6.2, has not been carried out.

8.2.5 Where wilful acts or omissions are ascertained.

8.2.6 Where any deliberate misrepresentation has been made by the Service Supplier.

8.3 A supplier whose approval was cancelled, may apply for re-approval provided it has corrected the non-conformities which resulted in cancellation, and the Society is able to confirm it has effectively implemented the corrective action.

8.4 Expiration or cancellation of the Supplier's parent company approval automatically invalidates approval of all agents and subsidiaries if these are certified according to 5.5.3.

9. Existing Approvals

Approvals for the categories of service suppliers granted before the date of implementation of UR Z17 by a society may remain valid as stated in the respective certificates for a period up to but not exceeding 3 years. Renewals of such certificates must be carried out in accordance with UR Z17.

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18. Firms engaged in Commissioning Testing of Ballast Water Management Systems (BWMS)

18.1 Extent of engagement - Sampling and Analysis of ballast water and Verification of the self-monitoring equipment during Commissioning Testing of Ballast Water Management Systems (BWMS), for Statutory purposes.

18.2 Procedure

18.2.1 Service suppliers are to have documented procedures including:

- Procedures for sampling collection and handling, analysis, assessment of BWMS correct operations and documenting and reporting. The procedures are to outline how the ballast water sampling and analysis is conducted with respect to each size class of organisms;
- Operating procedures for the ballast water test equipment specified including calibration, adjustment and maintenance

18.2.2 Service Suppliers are to be familiar with the BWMS operation including features and limits of each treatment technology, and self-monitoring parameters.

18.2.3 Service Suppliers are to be accredited to relevant standards such as ISO/IEC 17025 or equivalent, as applicable.

18.2.4 Service Suppliers are to be independent of the BWMS manufacturer or supplier including shipyards.

18.3 Operators – Service Suppliers are expected to be able to perform both the biological sampling and assessment of self-monitoring parameters and has responsibility for document that the requirements to the operator are satisfied. Therefore, operators who conduct commissioning testing are to:

- demonstrate knowledge in the use of different ballast water testing equipment for the purpose of assessing biological efficacy;
- have documented evidence of sufficient engineering and biological knowledge to conduct the commissioning testing;
- have knowledge of IMO BWM.2/Circ.70/Rev.1, as may be amended - 'Guidance for the Commissioning Testing of Ballast Water Management Systems' and IMO BWM.2/Circ.42/Rev.2 - 'Guidance on Ballast Water Sampling and Analysis for Trial Use in accordance with the BWM Convention and Guidelines (G2)', as may be amended;
- (* be trained in the proper use of portable indicative analysis equipment. Review of training records and/or interviews should be conducted to confirm the equipment will be properly used during testing;
- (* be familiar with and understand the design concepts of the Guidelines G2 sampling devices installed on the vessel's water ballast system. Personnel shall understand the need to maintain the G2 sampling devices clean and free of contaminants and the importance of controlling the ballast water sample flow rates from the G2 device (to avoid organism mortality in the sample);
- (* be familiar with the technologies utilized by the indicative sampling equipment and understand water quality issues that are both conducive to successful use of the equipment and circumstances that could challenge the use of the equipment;

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- : (*) be trained in the proper disposal procedures for water samples following testing.
- : (Δ) have knowledge of the system design limitations of the BWMS (as stated in the BWMS type approval certificate) and knowledge of the BWMS self-monitoring parameters, such as flow rate, pressure, TRO concentration, UV transmittance/intensity, etc. and how the BWMS notifies the operator in case he operates BWMS outside its system design limitations. This knowledge is relevant for evaluating whether the self-monitoring equipment of the BWMS indicates correct operation of the BWMS. In case Service Supplier are not present during ballasting operations, the Service Supplier shall have knowledge of how to access the BWMS log to evaluate that the BWMS operated correctly during ballasting operations;
- : (Δ) have the procedures and knowledge to be able to assess the applicable self-monitoring parameters (e.g., flow rate, pressure, TRO, UV intensity, etc.) of the BWMS, taking into account the System Design Limitations of the BWMS;

Notes: (1) the points marked with (*) are qualifications for operators performing sampling and analysis of ballast water; (2) the points marked with (Δ) are the qualifications for operators performing verification of the self-monitoring equipment ;(3) the points above without symbol are the common qualifications for service supplier.

18.4 Equipment and facilities

Equipment, procedures and methods for detailed analysis, where applicable, are to be in accordance with relevant International standard and/or accepted Industry standards. Laboratories conducting sample enumeration are to be accredited to ISO/IEC 17025 standard, or equivalent.

Testing should be conducted using indicative analysis equipment accepted by Society. information and reference to the acceptance documents for the equipment used should be submitted to the Society in the report which includes the results from the commissioning test as per IMO BWM.2/Circ.70/Rev.1, as may be amended. In case the indicative analysis equipment used has not been previously accepted by the Society, the following information is to be submitted to the Society;

- : Equipment information - type, model, technology used, evidence of calibration, detection range, Organism type/size classes that can be analyzed.
- : Test results conduct for the verification of accuracy, detection range and repeatability.
- : Certificate of standards, if available.

For indicative analysis equipment planned to be used, the equipment OEM instruction manuals shall be available. The manuals shall include, at least, clear guidance for the proper storage, handling, operation, maintenance, repair, and calibration.

Note: Each Service Supplier applicant will present the Surveyor their confidential internal procedures for conducting the indicative testing. Not all the equipment listed in the references will be used. For all equipment planned to be used, the instruction manuals shall be available.

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The Service Supplier will need to use specialty devices (e.g., sieves, screens, etc.) to separate the different organism sizes classes (i.e., $\geq 10 \mu\text{m}$ to $< 50 \mu\text{m}$, and $\geq 50 \mu\text{m}$, and indicator microbes) to support analysis of each size class.

Equipment used for the analysis of other physical-chemical water parameters is to be suitable for the intended use.

Indicative analysis equipment should be properly stored or transported to avoid damage and disturbance to calibrations, etc. when transporting from the Service Suppliers facilities to the vessels.

18.5 Sampling and Analysis

Service Suppliers are to follow relevant guidelines on sampling of ballast water. A standard operating procedure is to be defined for sampling of uptake water. Discharge sampling shall follow the IMO's 'Guidelines for Ballast Water Sampling (G2)'.

The representative samples shall be analyzed as a minimum for the two size classes of organisms, namely $\geq 50 \mu\text{m}$ and $\geq 10 \mu\text{m}$ to $< 50 \mu\text{m}$, specified in IMO Circular BWM.2/Circ.70/Rev.1 - Guidance for the Commissioning Testing of Ballast Water Management Systems using indicative analysis methods. Detailed analysis of all organism type/size classes or combination of detail and indicative analysis can also be performed.

Service Suppliers shall maintain a record of:

- : Operation of the BWMS during test period, including any recorded data or operator observations associated with the performance deviations, alarms or abnormal/unexpected operations.
- : Applicable self-monitoring parameters.

In case the commissioning testing requires the Service Supplier's personnel to work in hazardous areas (e.g., pump room for tankers, etc.), the Service Supplier shall either have equipment certified for the spaces or provide the Surveyor with a list of vessels for which they would not be able to conduct testing.

18.6 Reporting

Service Suppliers are to provide reports detailing the results of sampling and analysis of ballast water and assessment of self-monitoring parameters during commissioning testing. The format is to be acceptable to Society. The report, as a minimum, will contain the following:

- : Manufacturer's name
- : Model name
- : BWMS Technology limiting operating conditions and system design limitations
- : Operation required, e.g., ballasting, de-ballast, circulation, one pass, in tank, etc

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- Treatment rated capacity (TRC) in m³/h
- Relevant performance parameters (e.g. TRO, UV dose, UVI, flow rate or other relevant performance parameter).
- Alarms developed during operation.
- Installation location.
- Type Approval issued by and Certificate No
- Date installed
- Results of Sample analysis
- Pump flow rate, ballast tanks and volume
- Comments/Options: Filter and other major components, Process measurements.

18.7 Reference Documents

The Service Supplier is to have access to the following documents, as may be amended:

- IMO Resolution MEPC.300(72) – Code for Approval of Ballast Water Management Systems (BWMS Code)
- IMO Resolution MEPC.173(58) – Guidelines for Ballast Water Sampling (G2)
- IMO Circular BWM.2/Circ.42/Rev. 2 – Guidance on Ballast Water Sampling and Analysis for Trial Use in accordance with the BWM Convention and Guidelines (G2)
- IMO Circular BWM.2/Circ.70/Rev.1 - Guidance for the Commissioning Testing of Ballast Water Management Systems
- IMO Circular BWM.2/Circ.61 - Guidance on Methodologies that may be used for Enumerating Viable Organisms for Type Approval of Ballast Water Management Systems
- IMO Circular BWM.2/Circ.69 - Guidance on System Design Limitations of Ballast Water Management Systems and their Monitoring
- IMO Resolution MEPC.279(70) - 2016 Guidelines for Approval of Ballast Water Management Systems (G8)
- IMO Resolution A.1120(30) – Survey Guidelines under the Harmonized System of Survey and Certifications (HSSC), 2017 (for BWMS that were Type Approved to the 2016 G8)

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