RULES

PUBLICATION 51/P

PROCEDURAL REQUIREMENTS FOR SERVICE SUPPLIERS

January
2025

Publications P (Additional Rule Requirements) issued by Polski Rejestr Statków complete or extend the Rules and are mandatory where applicable.

GDAŃSK

Publication 51/P – Procedural Requirements for Service Suppliers – January 2025 based on the IACS Unified Requirements Z17 is an extension of the requirements contained in *Part I – Classification Regulations* of *the Rules for the Classification and Construction of Sea-Going Ships,* as well as in all other PRS *Rules*, in which reference to the *Publication* has been made*.*

The *Publication* was approved by the PRS Board on 13December 2024 and enters into force on 1 January 2025.

The present Publication replaces *Publication 51/P – Procedural Requirements for Service Suppliers – July 2023.*

* *Polish Register of Shipping means Polski Rejestr Statków S.A., seated in Gdańsk, al. gen. Józefa Hallera 126, 80-416 Gdańsk, Poland,* registered in the Register of Entrepreneurs of the National Court Register, under entry number 0000019880. Polish Register of Shipping, its affiliates and subsidiaries, their respective officers, employees or agents are, individually and collectively, referred to as Polish Register of Shipping or as PRS for short.

PRS/RP, 12/2024

CONTENTS

1 GENERAL

1.1 Firms providing services, such as measurements, tests or maintenance of safety systems and protective equipment are subject to approval by PRS in accordance with the mandatory procedure given in the present Publication.

2 OBJECTIVE

2.1 This procedure aims to set minimum requirements for the 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 PRS, 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 mobile offshore drilling 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 Manufacturer or approved/ recognized Service Supplier.

Subsidiary – a Company partly or wholly owned 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.

4 APPLICATION

4.1 The present Publication applies to the approval of the following categories of Service Suppliers:

4.1.1 Statutory services:

- firms engaged in servicing of inflatable liferafts, inflatable rescue boats, inflatable lifejackets, hydrostatic release units, marine evacuation systems;
- firms engaged in inspections and testing of radio communication equipment and Automatic Identification Systems (AIS);
- firms engaged in inspections and maintenance of self-contained breathing apparatus;
- firms engaged in annual performance testing of Voyage Data Recorders (VDR) and simplified Voyage Data Recorders (S-VDR);
- firms engaged in sound pressure level measurements of public address and general alarm systems on board ships;
- firms engaged in inspections of low-location lighting systems using photo luminescent materials and evacuation guidance systems used as an alternative to low-location lighting systems;
- firms engaged in the maintenance, thorough examination, operational testing and repair of lifeboats and rescue boats, launching appliances and release gear;
- firms quoting verified gross mass of container (VGM) by Method 2.

4.1.2 Classification and/or Statutory services:

- firms engaged in thickness measurements on ships or mobile offshore drilling units except:
  (1) non-ESP ships less than 500 gross tonnage, and
  (2) all fishing vessels;
- firms performing survey of underwater part of ships and mobile offshore drilling units by diver or Remotely Operated Vehicle (ROV);
- firms engaged in inspections and maintenance of fire-extinguishing equipment and fire-protection systems;
- firms engaged in tightness testing of closing appliances such as hatch covers, doors etc. with ultrasonic equipment;
- firms engaged in measurements of noise level on board ships;
- firms engaged in the examination of ro-ro ship's bow, stern, side and inner doors;
- firms engaged in testing of coating systems in accordance with Resolution MSC.215(82) and the requirements of IACS UI SC223 and /or Resolution MSC.288(87), as amended;
- firms engaged in tightness testing of primary and secondary barriers of gas carriers with membrane cargo containment systems for vessels in service;
- firms engaged in survey using Remote Inspection Techniques (RIT) as an alternative means for Close-up Survey of the structure of ships and mobile offshore drilling units;
- Non-Destructive Testing Service Suppliers;
- Service Suppliers engaged in assembly and maintenance involving plastics' welding;
- Service Suppliers carrying out the commissioning testing of Ballast Water Management Systems (BWMS);
- firms engaged in cable transit seal systems inspection on ships and mobile offshore drilling units;
- firms engaged in the monitoring of machinery technical condition.

4.1.3 Where PRS accepts work of a third party (e.g. Service Supplier) approved by itself, PRS shall verify the performance of such services. For statutory service, the flag State may increase the scope of verification to be applied to these services. The process shall be defined within PRS quality management system. For the purpose of accountability to the flag State, the work performed by the third party (e.g. Service Supplier) constitutes the work of PRS and shall be subject to the requirements incumbent upon PRS[1] under the RO Code (MSC.349(92) and MEPC.237(65)).

4.2 Where the results of the following service providers are used by PRS Surveyor in making decisions affecting classification services then that service provider shall be approved and verified[2] by PRS.

- firms engaged in thickness measurements on ships or mobile offshore drilling units except:
  (1) non-ESP ships less than 500 gross tonnage, and
  (2) all fishing vessels;
- firms performing survey of underwater part of ships and mobile offshore drilling units by diver or Remotely Operated Vehicle (ROV);
- firms engaged in tightness testing of closing appliances such as hatches doors etc. with ultrasonic equipment;
- firms engaged in survey using Remote Inspection Techniques (RIT) as an alternative means for Close-up Survey of the structure of ships and mobile offshore drilling units.

[1] Effective as of 1 July 2016
[2] Verification effective as of 1 July 2016.

4.3 Where such services are used by PRS Surveyors in making decisions affecting statutory certification and service, the firms shall be approved and verified[2] by PRS if PRS is granted authorisation by the relevant Flag Administration (i.e. the flag of the ship on which the servicing is to be done or the service equipment is to be used). For such services, PRS may accept approvals done by:
- the Flag Administration itself;
- duly authorized organisations acting on behalf of the Flag Administration; or
- other organizations those are acceptable to the Flag Administration (e.g. other governments, etc.).

4.4 Use of the approved Service Suppliers is not mandatory for the following services, unless instructed otherwise by the flag Administration with respect to statutory certification:
- firms engaged in inspections of low-location lighting systems using photo luminescent materials and evacuation guidance systems used as an alternative to low-location lighting systems;
- firms engaged in sound pressure level measurements of public address and general alarm systems on board ships;
- firms engaged measurements of noise level on board ships;
- firms engaged in testing of coating systems in accordance with Resolution MSC.215(82) and the requirements of IACS UI SC223 and /or Resolution MSC.288(87), as amended;
- firms engaged in the examination of ro-ro ship's bow, stern, side and inner doors.

4.5 Detailed requirements specific to the various categories of suppliers are given in Chapter 9. National and/or international requirements may give additional requirements. Reference to such national and/or international requirements is given in Chapter 9.

5 PROCEDURE FOR APPROVAL AND CERTIFICATION

5.1 Submission of documents

5.1.1 The following documents* shall be submitted to PRS for review. General requirements concerning suppliers are given in 5.2, and specific requirements as relevant, in Chapter 9:
- outline of company – organisation and management structure, including subsidiaries to be included in the approval;
- list of nominated agents, subsidiaries and subcontractors;
- experience of the company in the specific service area;
- for categories of Service Suppliers that require authorization from manufacturers, manufacturer's documentary evidence that Service Supplier has been authorized or licensed to service the particular makes and models of equipment for which approvals 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;
- guide for operators of such equipment;
- training programmes for operators/technicians/inspectors;
- checklists and record formats for recording results of the performed services;
- 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;

* It is recommended that the above-mentioned documents should be prepared and submitted in electronic form.

– evidence of approval/acceptance by other class societies or 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.

5.2 General requirements

5.2.1 Extent of approval – the supplier shall demonstrate, as required by 5.2.2 ÷ 5.2.11, that he has the competence and control system 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 own personnel to a recognised national, international or industry standard, as applicable. Where such standards do not exist, the supplier shall define standards for the training and qualification of personnel relevant to the functions each is authorized to perform. The personnel shall also have an adequate experience and be familiar with the operation of any necessary equipment. Operators/technicians/inspectors shall have had a minimum of one year 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 approved operators/technicians/ inspectors. The records shall contain information on age, education, 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. PRS[3] shall assess and record the validity of previous measuring results when the equipment is found not to conform to requirements. PRS 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 shall 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.

[3] Effective as of 1 July 2016.

5.2.9 Subcontractors – the supplier shall give information on 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 anything other than equipment shall also meet the requirements of 5.2 and 5.5.

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

5.2.11 Reporting – the report of performed services shall be prepared in a form acceptable to PRS. The report shall detail the results of inspections, measurements, tests, maintenance and/or repairs performed. Special guidelines are given in Chapter 9. The report shall include a copy of *Approval Certificate*.

5.2.12 Documented procedures and instructions shall be available for the recording of damage cases and defects found during inspections, servicing and repair work. This documentation shall be made available upon request.

5.3 Inspection of Service Supplier

Upon reviewing the submitted documents with satisfactory result, the Service Supplier is audited in order to ascertain that the Service 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 is sought.

5.4 Practical demonstration

Approval is conditional on a practical demonstration of the performance of the specific service as well as satisfactory reporting being conducted. At initial audits, when the Service Supplier is already certified by other QSCS certified Society according to the provision of this Publication (IACS UR Z17), this may be verified through documentary review that a practical demonstration has already been carried out. At renewal audits, verification by documentary review of jobs undertaken since the previous audit and that have been accepted by a QSCS certified Society is acceptable and is sufficient to satisfy this requirement.

5.5 Quality system

5.5.1 The Service Supplier shall have a documented system covering at least the following:
- code of conduct for the relevant activity;
- maintenance and calibration of measuring 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 current version of ISO 9000 series and including the items would be considered acceptable.

5.5.3 If a manufacturer of equipment (and/or its Service Supplier) applies to PRS for inclusion of its nominated agents and/or subsidiaries in the approval, then it shall have implemented a quality system certified in accordance with the current version of ISO 9000 series. The quality system shall contain effective controls of the manufacturer's (and/or Service Supplier's) agents and/or subsidiaries. The nominated agents/subsidiaries shall also have in place an equally

effective quality system complying with the current version of ISO 9000 series. Such approval shall be based upon an evaluation of the quality system implemented by the parent company against the current version of ISO 9000 series. PRS 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 equipment manufacturer

5.6.1 A company which works as a service station for manufacturers of equipment (and as a Service Supplier in this field) shall be assessed by the manufacturers and nominated as their agent. The manufacturer shall ensure that appropriate instruction manuals, material, etc. are available for the agent, as well as of 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.

6 APPROVAL CERTIFICATE

6.1 Upon satisfactory completion of both the audit of the supplier and the demonstration test, as applicable, PRS Head Office issues Approval Certificate 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 Surveyors in making decisions affecting classification or statutory certification, as relevant. The Approval 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 is also included in PRS records of approved Service Suppliers.

6.2 The validity of Approval Certificate shall be a maximum of three years.

6.3 Renewal or endorsement of the of Approval Certificate is made at intervals not exceeding three 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, PRS shall be informed in due course by the Service Supplier.

7 INFORMATION ON ALTERNATIONS TO CERTIFIED SERVICE SUPPLIER OPERATING SYSTEM

7.1 When any alteration to the certified service operating system of the Service Supplier is made, such alteration shall be communicated to PRS immediately. Re-inspection may be required when deemed necessary by PRS.

8 CANCELLATION OF APPROVAL CERTIFICATE

8.1 PRS reserves the right to cancel the *Approval Certificate* and inform the IACS Members accordingly (for firms engaged in thickness measurements refer to PR 23).

8.2 *Approval Certificate* may be cancelled in the following cases where:
- the service was improperly performed or the results were improperly reported;
- PRS Surveyor finds deficiencies in the approved service operating system of the supplier and appropriate corrective action is not taken;
- alterations have been made to the Company's Quality System relevant to the Service Supplier certificates, without written notification to PRS;
- the intermediate audit, if requested as per 6.2, has not been performed;
- wilful acts or omission are ascertained;

– any deliberate misrepresentation has been made by the Service Supplier;
– non-payment, in due time, for PRS services.

8.3 A Service Supplier, whose *Approval Certificate* was cancelled, may apply for re-approval, provided it has corrected the non-conformities which resulted in approval cancellation and PRS is able to confirm it he has effectively implemented the corrective action.

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

9 SPECIAL REQUIREMENTS FOR VARIOUS CATEGORIES OF SERVICE SUPPLIERS

9.1 Firms engaged in thickness measurements onboard ships or mobile offshore drilling units

9.1.1 Extent of engagement

The scope of services covers the thickness measurement of structural material of ships or mobile offshore drilling units, except:
– non-ESP ships of less than 500 gross tonnage; and
– all fishing vessels.

9.1.2 Supervisor

The responsible supervisor shall be qualified according to a recognised national or international industrial NDT standards (e.g. EN ISO 9712 level II or an equivalent standard).

9.1.3 Operators

The operators performing the measurements shall be certified to a recognised national or international industrial NDT standards (e.g. EN ISO 9712 level I or an equivalent standard) and shall have adequate knowledge of ship structures sufficient to elect a representative position for each measurement.

9.1.4 Equipment

On coated surfaces, instruments using pulsed echo technique (either with oscilloscope or digital instruments using multiple echoes, single crystal technique) are required. Single echo instruments may be used on uncoated surfaces, which have been cleaned, and ground.

9.1.5 Procedures

Documented work procedures shall at least contain information on inspection preparation, selection and identification of test locations, surface preparation, protective coating preservation, calibration checks, and report preparation and content.

9.1.6 Reporting

The report shall be based on the guidelines given in the following PRS *Publications: 36/P*, *39/P*, *46/P*, *58/P*, *62/P*, *64/P* and *82/P,* as relevant.

It is recommended that the condition of the measured hull structures should be documented by digital camera, saving the images to CD, enclosed with the measurement report.

9.1.7 Verification

The Service Supplier shall have PRS Surveyor's verification of each separate job, documented in the report by the attending Surveyor signature.

9.2 Firms engaged in tightness testing of closing appliances such as hatch covers, doors etc. with ultrasonic equipment

9.2.1 Extent of engagement

Ultrasonic tightness testing of closing appliances such as hatch covers, doors etc.

9.2.2 Operators

Operators shall have the following qualifications:
- have knowledge of different closing appliances such as hatches, doors etc. including their design, functioning and sealing features;
- have experience with the operation and maintenance of different closing appliances such as hatches, doors etc.;
- be able to document a theoretical and practical training onboard in using ultrasonic equipment specified.

9.2.3 Equipment

It shall be demonstrated to PRS Surveyor that the ultrasonic equipment is fit for the purpose of detecting leakages in closing appliances.

9.2.4 Procedures

The supplier shall have documented work procedures which shall include the manual for the ultrasonic equipment specified, its adjustment, maintenance, operation and approval criteria.

9.3 Firms performing survey of underwater part of ships and mobile offshore drilling units by diver or Remotely Operated Vehicle (ROV)

9.3.1 Extent of engagement

The scope of services covers in-water works during in-water survey in lieu of a docking survey and/or the internal hull survey of compartments filled with water on ships and mobile offshore drilling units performed by PRS Surveyors.

In-water works performed by divers include:
- video monitoring by means of a closed circuit television;
- auxiliary works (e.g. cleaning, installation of sealing mats, caissons, etc.) which enable PRS Surveyor to perform inspection of the underwater part of the hull.

The conducted works are monitored by PRS Surveyor during in-water survey of ships and mobile offshore drilling units by diver or Remote Operated Vehicle (ROV).

Welding operations, thickness gauging, repairs of propellers and painting may also be performed by divers on the basis of a separate approval certificate.

9.3.2 Training of Personnel

The supplier is responsible for the qualification of its divers, Remotely Operator Vehicle (ROV) operators and supervision and for their training in the use of the equipment utilized during the inspection. Knowledge of the following shall be documented:

– the ship's underwater structure and appendages, propeller shaft, propeller, rudder and its bearings, etc.;
– non-destructive testing in accordance with recognized national or international industrial NDT standards. This requirement only applies if an in-water survey company performs non-destructive testing;
– certification as a thickness measurement firm when conducting thickness measurements under water;
– bearing clearance measurements on rudders and propeller shaft;
– under-water video monitoring with TV-monitors on deck, as well as still picture work;
– operation of under-water communication system;
– any special equipment necessary for the work carried out.

9.3.3 Plan for personnel training

A plan for training of the personnel in the reporting system, minimum rules requirements for relevant ship or unit types, ship's or unit's underwater structure, measuring of bearing clearances, recognition of corrosion damage, buckling and deteriorated coatings, etc. shall be included.

9.3.4 Supervisor

9.3.4.1 Diving Supervisor – Diving supervisor shall be qualified according to the supplier's general requirements and shall have a minimum of two years' experience as a diver performing inspection.

9.3.4.2 ROV Supervisor – ROV supervisor shall have a minimum of two years of experience conducting inspections with ROVs.

9.3.5 Divers and Operators Performing Inspection

9.3.5.1 The diver performing the inspection shall have had at last one year's experience as an assistant diver performing inspections (including participation in a minimum of 10 different assignments).

9.3.5.2 ROV operators shall have at least one year of experience working with ROVs conducting inspections on vessels.

9.3.6 Equipment

9.3.6.1 The following shall be available:
– closed circuit colour television with sufficient illumination equipment;
– two-way communication between the diver and surface staff;
– video recording device connected to the closed circuit television;
– still photography camera;
– equipment for performing thickness gauging, non-destructive testing and measurements, e.g. clearances, indents, etc., as relevant to the work to be performed;
– equipment for cleaning the hull.

9.3.6.2 In addition to above 9.3.6.1 the following shall be available for firms carrying out survey by ROV:
– Remotely Operated Vehicle;
– adequate controls or programming for the ROV functions required.

9.3.7 Procedures and guidelines

9.3.7.1 The Service Supplier shall have documented operational procedures and guidelines for how to perform the inspection and how to handle the equipment. These shall include:
- two-way communication between the diver and surface;
- video recording and closed circuit television operation;
- guidance of the diver along the hull to provide complete coverage of the parts to be inspected.

9.3.7.2 In addition to above 9.3.7.1 documented operational procedures and guidelines for firms carrying out in-water survey by ROV shall also include:
- guidance for the operation and maintenance of the Remotely Operated Vehicle, if applicable,
- methods and equipment to ensure the ROV operator can determine the ROV's locations and orientation in relation to the vessel.

9.3.8 Verification

The Service Supplier shall have PRS Surveyor's verification of each separate job, documented in the report by the attending Surveyor(s) signature.

9.4 Firms engaged in inspection and maintenance of fire extinguishing equipment and fire protection systems

9.4.1 Extent of engagement

Extent of engagement covers inspections and maintenance of fire-protection equipment and systems, such as fixed fire extinguishing systems, portable fire extinguishers, fixed fire detection and alarm systems, and fixed gas detection systems.

9.4.2 Extent of approval

- Service Suppliers shall have professional knowledge of fire theory, fire-fighting and fire-extinguishing appliances sufficient to perform the maintenance and/or inspections, and to make the necessary evaluations of the condition of the equipment.
- In demonstrating professional knowledge, Service Suppliers shall have an understanding of the various types of fires and the extinguishing media to be used on them.
- For fixed fire-extinguishing systems, Service Suppliers shall demonstrate an understanding of the principles involved with gas, foam, deluge, sprinkler and water-mist systems, as relevant for the approval being sought.

9.4.3 Procedures

- Service Suppliers shall have documented procedures and instructions on how to perform the servicing of the equipment and/or system. These shall either contain or make reference to the Manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate, and to international requirements.
- Additionally they shall make reference to any requirements (e.g. what markings shall be appended to the equipment/system).

9.4.4 Reference documents

The Service Supplier shall have access to the following documents:
- Manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;
- Type Approval Certificates showing any conditions that may be appropriate during the servicing and/or maintenance of fire-extinguishing equipment and systems;

- *SOLAS*, MSC.1/Circular.1318/Rev.1 (*Revised Guidelines for the Maintenance and Inspections of Fixed Carbon Dioxide Fire-Extinguishing Systems*), *International Code for Fire Safety Systems (FSS Code),* ISO 6406 (*Periodic inspection and testing of seamless steel gas cylinders*), and any documentation specified in the authorisation or license from the equipment manufacture;
- MSC/Circ.670 (*Guidelines for the Performance and Testing Criteria and Surveys of High Expansion Foam Concentrates for fixed Fire-Extinguishing Systems*);
- MSC/Circ.798 (*Guidelines for the Performance and Testing Criteria and Surveys of Medium Expansion Foam Concentrates for fixed Fire-Extinguishing Systems*);
- MSC.1/Circ.1312 (*Revised Guidelines for the Performance and Testing Criteria and Surveys of Foam Concentrates for fixed Fire-Extinguishing Systems as corrected by MSC/Circ.1312/Corr.1*);
- MSC.1/Circ.1432 (*Revised Guidelines for the maintenance and Inspection of Fire Protection Systems and Appliances* (as amended by MSC.1/Circ.1516);
- MSC.1/Circ.1516 (*Amendments to the Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances (MSC.1/Circ.1432*));
- IMO Res. A.951(23) – *Improved Guidelines for Marine Portable Fire Extinguishers*;
- MSC.1/Circ.1370 – *Guidelines for the Design, Construction and Testing of Fixed Hydrocarbon Gas Detection Systems*;
- Guidelines adopted by IMO for fire extinguishing equipment and systems specifically intended for service by Service Suppliers.

9.4.5 Equipment and facilities

9.4.5.1 General requirements

If Service Suppliers undertake shore-based inspecting and maintenance, they shall maintain and implement procedures for workshop cleanliness, ventilation and arrangement, with due cognisance of the spares and extinguishing media being stored, to ensure safe and effective working procedures.

Service Suppliers undertaking inspecting and maintenance of equipment and systems onboard shall provide the appropriate facilities to either complete the work onboard or remove the necessary items to their workshops.

9.4.5.2 Equipment

Sufficient and appropriate spares and tools shall be available as applicable, which should include:
- various scales to weigh items;
- means to hydrostatically pressure test components/systems/storage bottles;
- liquid/gas, flow meters, as appropriate;
- pressure gauges or manometers;
- in the cases of foam concentrates and portable fire-extinguishers, chemical analysis equipment and a testing bay, respectively; and
- specific equipment/spares as may be specified by Manufacturer;
- level measuring equipment for bottles;
- recharging facilities for pressurized bottles, extinguishers and cartridges.

9.5 Firms engaged in servicing inflatable liferafts, inflatable rescue boats, inflatable lifejackets, hydrostatic release units, and marine evacuation systems

9.5.1 Extent of engagement

Extent of engagement covers servicing of inflatable liferafts, inflatable lifejackets, hydrostatic release units and servicing of marine evacuation systems.

9.5.2 Equipment and facilities

Res. A.761(18) as amended by MSC.55(66) and MSC.388(94) gives recommendations on conditions for the approval of servicing stations for inflatable liferafts which shall be observed as relevant. Where inflatable liferafts are subject to extended service intervals, MSC.1/Circ.1328 shall also be followed.

9.5.3 Procedures and instructions

The supplier shall have documented procedures and instructions for how to perform service of equipment. Where inflatable liferafts are subject to extended service intervals in accordance with the requirements of SOLAS Regulation III/20.8.3, MSC.1/Circ.1328 shall be followed in addition to Resolution A.761(18) as amended by MSC.55(66) and MSC.388(94).

9.5.4 The supplier shall provide evidence that it has been authorised or licensed to service the particular makes and models of equipment for which approval is sought by the equipment's manufacturer.

9.5.5 Reference documents

The Service Supplier shall have access to the following documents:
- Res. A.761(18) – *Recommendation on conditions for the approval of servicing stations for inflatable liferafts* – (adopted on 4 November 1993), amended by Resolution MSC.55(66) and MSC.388(94);
- Res. MSC.55(66) and MSC.388(94);
- MSC.1/Circ.1328 – *Guidelines for the approval of inflatable liferafts subject to extended service intervals not exceeding 30 months*;
- manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;
- Type Approval Certificates, showing any conditions that may be appropriate during the servicing and/or maintenance of inflatable liferafts, inflatable lifejackets, and hydrostatic release units;
- *LSA Code*/Chap.IV, 1995 *SOLAS* Conference Resolution 4 regarding marine evacuation systems.

9.6 Firms engaged in inspections and testing of radio communication equipment and Automatic Identification Systems (AIS)

9.6.1 Extent of engagement:

- surveys, inspection, testing, and/or measurement of radio equipment aboard ships or mobile offshore drilling units for compliance with *SOLAS* regulations;
- annual testing of 406 MHz satellite EPIRBs for compliance with *SOLAS* Regulation IV/15.9;
- the principles of this section also apply to Service Suppliers involved in inspection, performance testing and maintenance of Automatic Identification Systems (AIS). The Service Supplier shall be familiar with the equipment with which it will be involved, such as being a service agent for the equipment manufacturer.

9.6.2 Reference documents

The supplier shall have access to the following documents:
- SOLAS 1974 as amended;
- Res. A.789(19): *Specification on the survey and certification functions of recognised organisations acting on behalf of the administration*;
- MSC.1/Circ.1040/Rev.2 – *Guidelines on annual testing of 406 MHZ satellite EPIRBs*;
- MSC.1/Circ.1252 – *Guidelines on annual testing of the Automatic Identification System (AIS)*;

– SN/Circ.227, SN/Circ.227/Corr.1 and SN/Circ.245 – *Guidelines for the installation of a shipborne Automatic Identification System (AIS) and amendments thereto*;
– *ITU Radio Regulations*;
– IMO *Performance Standards for the equipment for which the Service Supplier is approved*;
– Flag State Administration requirements;
– relevant parts, if any, of the PRS Rules and Guidelines.

9.6.3 Supervisor

The supervisor shall have minimum two years education from a technical school, experience as inspector, and should preferably hold a General Operator's Certificate (GOC) or a GMDSS Radioelectronic Certificate (REC), recognized by the ITU, to operate or test radio transmitters. He shall be aware of any local conditions for radio signal propagation, of regional radio stations and their facilities, and of the GMDSS infrastructure.

9.6.4 Radio inspector

The inspector performing the inspection shall have passed the internal training of the supplier in Radiotelephony, GMDSS, and initial and renewal surveys, as applicable. The inspector shall also have at least one year's technical school training or as alternative hold evidence that he followed a technical course approved by the relevant Administration, at least one year's experience as an assistant radio inspector and should preferably hold an appropriate National Radio Operators Certificate, recognized by the ITU, such as a GMDSS General Operator's Certificate (GOC) or a GMDSS Radioelectronic Certificate (REC). He shall be aware of any local conditions for radio signal propagation, of regional radio stations and their facilities, and of the GMDSS infrastructure.

9.6.5 Equipment and facilities

9.6.5.1 The supplier shall have the major and auxiliary equipment required for correctly performing the inspection. A record of the equipment used shall be kept. The record shall contain information on manufacturer and type of equipment, and a log of maintenance and calibrations.

9.6.5.2 A standard which is relevant to the radio equipment to be tested shall be available for the equipment and shall be cited in the inspection report.

9.6.5.3 For equipment employing software in conjunction with the testing/examination, this software shall be fully described and verified.

9.6.6 Minimum required instruments:

– equipment for measuring frequency, voltage, current and resistance;
– equipment for measuring output and reflect effect on VHF and MF/HF;
– equipment for measuring modulation on MF/HF and VHF (AM, FM, PM);
– acid tester for checking specific gravity of lead batteries;
– tester for checking of correct output from Free-Float Satellite EPIRB;
– equipment for testing the performance of Automatic Identification Systems (AIS).

9.6.7 Procedures and instructions

The supplier shall have documented procedures and instructions for how to perform testing and examination of radio equipment. Procedures and instructions for operating of each item of the testing/ inspection equipment shall also be kept and be available at all times.

9.7 Firms engaged in inspection and maintenance of self-contained breathing apparatus

9.7.1 Extent of engagement – inspections and maintenance of self-contained breathing apparatus, Emergency Escape Breathing Devices (EEBD).

9.7.2 Extent of approval

The supplier shall document and demonstrate that it has knowledge of the equipment and systems sufficient to perform the inspections and testing of self-contained breathing apparatus to identify standards and to make the necessary evaluation of the condition of the equipment.
In demonstrating professional knowledge, Service Suppliers shall have an understanding of the operational requirements involved with self-contained breathing apparatus and how these shall be maintained.
Additionally, Service Suppliers shall demonstrate the necessary safety requirements applicable to such equipment.

9.7.3 Procedures

Service Suppliers shall have documented procedures and instructions on how to perform the servicing of the equipment and/or system. These shall either contain or make reference to the Manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate.
Additionally they shall make reference to any requirements (e.g. what markings shall be appended to the equipment/system) and how they should be applied.

9.7.4 Reference Documents

The Service Supplier shall have access to the following documents:
- Manufacturers' servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;
- *Type Approval Certificate*s showing any conditions which may be appropriate during the servicing and/or maintenance of self-contained breathing apparatus.

9.7.5 Equipment and facilities

9.7.5.1 General requirements:

If Service Suppliers undertake shore-based inspecting and maintenance, they shall maintain and implement procedures for workshop cleanliness, ventilation and arrangement, with due cognisance of the spares and pressurised bottles being stored, to ensure safe and effective working procedures;

Service Suppliers undertaking inspecting and maintenance of equipment and systems onboard shall provide the appropriate facilities to either complete the work onboard or remove the necessary items to their workshops.

9.7.5.2 Equipment

Sufficient and appropriate spares and tools shall be available for repair, maintenance and servicing of self-contained breathing apparatus in accordance with the requirements of the Manufacturers. These shall include, as required by the self-contained breathing apparatus equipment and/or systems:
- various scales to weigh items;
- means to hydrostatically pressure test components/systems/storage bottles;
- flow meters; and
- pressure gauges or manometers;

– equipment for checking air quality;
– recharging facilities for breathing apparatus.

9.8 Firms engaged in examination of ro-ro ships bow, stern, side and inner doors

9.8.1 Extent of engagement

Inspection of securing and locking devices, hydraulic operating system, electric control system for the hydraulics, electric indicator systems, and supporting, securing and locking devices and tightness testing.

The Service Supplier shall be certified to the most current version of ISO be 9000 series.

9.8.2 Supervision

In addition to 5.2.3 the requirement to have had a minimum of two years experience as an operator/ technician/inspector within the activity, a Supervisor shall have a minimum two years related education from a technical school.

9.8.3 Personnel training

Operators performing non-destructive testing shall be qualified to a recognized national or international industrial NDT standards for the methods used.

9.8.4 Reference documents

The Service Supplier shall have access to the following reference documents:
– *International Convention on the Safety of Life at Sea* (*SOLAS*) *74/78* as amended,
– ISO 9000 series Quality systems – requirements,
– IACS UR Z24 – *Survey requirements for shell and inner doors of ro-ro ships*.

9.8.5 Required equipment

9.8.5.1 For inspection of supporting, securing and locking devices, hinges and bearings:
– equipment for measuring clearances (i.e. feeler gauges, vernier callipers, micrometers),
– non-destructive testing (i.e. dye penetrant, magnetic particle inspection).

9.8.5.2 For tightness testing:
– ultrasonic leak detector or equivalent.

9.8.5.3 For inspection of hydraulic operating system:
– pressure gauges;
– particle counter for analysing the quality of hydraulic fluid.

9.8.5.4 For inspection of electric control system and indication system:
– digital multi-meter;
– earth fault detector.

9.8.6 Procedures and Instructions

The Service Supplier shall have access to drawings and documents, including the Operating and inspection manual.
The Service Supplier shall have access to the service history of doors.
The Service Supplier shall use, complete and sign a checklist which has been found acceptable by PRS.

9.9 Firms engaged in annual performance testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)

9.9.1 Extent of engagement

Testing and servicing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR) in accordance with *SOLAS* Chapter V Regulation 18.8 and MSC.1/Circular 1222/Rev.1/ Rev.1 – *Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR),* as applicable.

9.9.2 Extent of approval

9.9.2.1 The supplier shall provide evidence that he has been authorized or licensed by the equipment's manufacturer to service the particular makes and models of equipment for which approval is sought.

9.9.2.2 Where the Service Supplier is also the Manufacturer of the Voyage Data Recorder (VDR) or Simplified Voyage Data Recorder (S-VDR) and has elected to apply MSC.1/Circular 1222/Rev.1 – *Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)* in its entirety for the purpose of acting as a Service Supplier engaged in annual performance testing, the following applies:

- the Manufacturer is responsible for appointing Manufacturer's Authorised Service Stations to perform annual performance testing;
- the Manufacturer is required to be an Approved Service Supplier and shall satisfy the requirements for Service Suppliers engaged in annual performance testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR), as applicable;
- the Manufacturer's Authorized Service Station is not required to be an Approved Service Supplier;
- the Manufacturer shall demonstrate that MSC.1/Circular.1222/Rev.1 - *Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)* is applied in its entirety.

9.9.3 Procedures

9.9.3.1 The Service Supplier shall have documented procedures and instructions.

9.9.3.2 Where the Service Supplier is also the Manufacturer of the Voyage Data Recorder (VDR) or Simplified Voyage Data Recorder (S-VDR) and has selected to apply MSC.1/ Circular 1222/Rev.1 – *Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)* in its entirety for the purpose of acting as a Service Supplier engaged in annual performance testing, the following applies:

- the Manufacturer shall have documented procedures for the assessment and authorization of Manufacturer's Authorised Service Stations who perform annual performance testing;
- the Manufacturer shall have documented procedures for the review of Manufacturer's Authorized Service Stations annual performance test reports, analysis of the Voyage Data Recorder (VDR) and Simplified Voyage Data Recorder (S-VDR) 12 hour log and the issue of annual performance test certificates to the Owner/Operator;
- the Manufacturer shall maintain a list of Manufacturer's Authorized Service Stations that can be accessed (by any available means, e.g. via a nominated contact point or from the Manufacturer's website) upon request.

9.9.4 Reference documents

9.9.4.1 The Service Supplier shall have access to the following documents:
- *International Convention on the Safety of Life at Sea (SOLAS),* 74/78, Ch V, Reg. 18.8. – *Approval, surveys and performance standards of navigational systems and equipment and voyage data recorder*
- MSC.1/Circular 1222/Rev.1 – *Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)* – (11 December 2006);
- Res. A.861(20) (adopted on 27 November 1997) as amended by Res. MSC.214(81) and revised by Res. MSC.333(90) – *Performance Standards for Shipborne Voyage Data Recorders (VDRs)*;
- Res. MSC.163(78) – *Performance Standards for Shipborne Simplified Voyage Data Recorders (S-VDRs)* – (adopted on 17 May 2004), as amended by Res. MSC 214(81).

9.9.4.2 The Service Supplier shall have access to applicable industry performance standards, e.g.:
- IEC 61996 – *Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR);*
- IEC 61996–2 – *Maritime navigation and radio communication equipment and systems – Shipborne voyage data recorder (VDR) – Part 2: Simplified voyage data recorded (SVDR) – Performance requirements, method of testing and required test results*.

9.9.4.3 The Service Supplier shall also have access to any documentation specified in the authorization or license from the equipment manufacturer.

9.9.5 Equipment and facilities

In addition, the Service Supplier shall have equipment as specified in the authorisation or license from the equipment Manufacturer.

9.9.6 Reporting – Test Report

9.9.6.1 The Service Supplier shall issue a certificate of compliance as specified in the *International Convention on Safety of Life at Sea* (*SOLAS 1974*), as amended, Ch V, Reg 18.8.

9.9.6.2 Annual Performance Test of VDR and S-VDR shall be recorded in the form of the model test report given in the Appendix to MSC.1/Circular 1222/Rev.1, signed and stamped by the Service Supplier and attached to the annual performance test certificate.

9.9.6.3 Where the Service Supplier is also the Manufacturer of the Voyage Data Recorder (VDR) or Simplified Voyage Data Recorder (S-VDR) and has selected to apply MSC.1/Circular 1222/Rev.1 – *Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)* in its entirety for the purpose of acting as a Service Supplier engaged in annual performance testing, the Manufacturer shall make arrangements for the following:
- review of the Manufacturer's Authorized Service Station annual performance test report;
- analysis of the recorder's 12 hour log;
- checking of the master record/database for the recorder.

9.9.6.4 Annual performance test certificate is issued to the Owner/Operator within 45 days of the annual performance test completion.

9.10 Firms engaged in inspections of low-location lighting systems using photo luminescent materials and evacuation guidance systems used as an alternative to low-location lighting systems

9.10.1 Extent of engagement

Luminance measurements on board ships of low location lighting systems using photo luminescent materials.

9.10.2 Operators

The operator shall have the following qualifications:
- have adequate knowledge of the applicable international requirements (namely *SOLAS* reg. II-2/13.3.2.5, Res. A.752(18) – *Guidelines for the Evaluation, Testing and Application of Low-Location Lighting on Passenger Ships*, ISO 15370-2010, *FSS Code* Chapter 11);
- be able to document theoretical and practical training onboard in using equipment specified.

9.10.3 Equipment

The measuring instrument shall incorporate a fast-response photometer head with CIE (International Commission on Illumination) photopic correction and have a measurement range of at least 10^{-4} cd/m^2 to 10 cd/m^2.

9.10.4 Procedures

Documented work procedures shall at least contain information on inspection preparation, selection and identification of test locations.

9.10.5 Reporting

The report shall conform to Annex C of ISO 15370-2010.

9.10.6 Verification

The supplier shall have PRS Surveyor's verification of each separate job, documented in the report by the attending Surveyor's signature.

9.10.7 Reference documents

The Service Supplier shall have access to the following documents:
- *International Convention on the Safety of Life at Sea (SOLAS)*, 74/78 Ch II-2, Pt D, Reg. 13.3.2.5 – *Marking of escape routes*;
- *Fire Safety Systems Code (FSS Code)*, Ch 11 – *Low-location lighting systems*;
- Res. A.752(18) – *Guidelines for the Evaluation, Testing and Application of Low-Location Lighting on Passenger Ships* – (adopted on 4 November 1993);
- ISO 15370:2010 – *Ships and marine technology – Low-location lighting on passenger ships – Arrangement*;
- MSC/Circ.1168 – *Interim guidelines for the testing, approval and maintenance of evacuation guidance systems used as an alternative to low-location lighting systems*.

9.11 Firms engaged in sound pressure level measurements of public address and general alarm system on board ship

9.11.1 Extent of engagement

Sound pressure level measurements of public address and general alarm systems on board ships.

9.11.2 Operators

The operator shall have the following qualifications:
- have adequate knowledge of the applicable international requirements (*SOLAS* Reg. III/4 and III/6, *LSA Code* Chapter VII/7.2, *IMO Code on Alarms and Indicators*, 2009);
- be able to document theoretical and practical training onboard in using equipment specified.

9.11.3 Equipment

The measuring instrument shall be an integrating sound level meter with frequency analyzer capabilities complying with IEC (International Electrotechnical Commission) 60651 and IEC 61672, type 1 precision class with, at least an A-weighting frequency response curve and 1/3 octave and 1 octave band filters, complying to IEC 61260, as appropriate for the measurements to be performed. In addition microphones shall be of the random incidence type, complying with IEC 60651.

9.11.4 Procedures

Documented work procedures are at least to contain information on inspection preparation, calibration, selection and identification of test locations.

9.11.5 Reporting

The report shall describe, as a minimum, the environmental conditions of the tests and, for each test location, the ambient noise level or the speech interference level, as appropriate for the measurements to be performed. The report shall conform to any other specific requirement of PRS.

9.11.6 Verification

The supplier shall have the Surveyor's verification of each separate job, documented in the report by his signature.

9.11.7 Reference documents

The Service Supplier shall have access to the following documents:
- *SOLAS 74/78*, Ch III, Pt A, Reg. 4 – *Evaluation, testing and approval of life-saving appliances and arrangements*;
- *SOLAS 74/78*, Ch III, Pt B, Reg. 6 – *Communications*;
- *International Life-Saving Appliance (LSA) Code*, Ch VII, Reg. 7.2 – *General alarm and public address system*;
- *IMO – Code on Alarms and Indicators*, 2009, as amended;
- IEC 60651 (2001-10) – *Sound level meters*;
- IEC 61672 – *Electroacoustics – Sound level meters*;
- IEC 61260 – *Electroacoustics – Octave-band and fractional-octave-band filters*.

9.12 Firms engaged in testing of coating systems in accordance with Resolution MSC.215(82) and the requirements of IACS UI SC223 and/or Resolution MSC.288(87), as amended

9.12.1 Laboratories

9.12.1.1 Extent of engagement

Testing of coatings systems according to IMO Resolution MSC.215(82), as amended by IMO MSC.1/Circ.1381 and amended by IMO Resolution 341(91) and IACS UI SC223 and/or MSC.288(87), as corrected by IMO MSC.1/Circ.1381 and amended by IMO Resolution 341(91).

9.12.1.2 The laboratory shall provide PRS SA with the following information:
- a detailed list of the Laboratory test equipment for the coating approval according to the IMO Resolution MSC.215(82) as amended and/or MSC.288(87) as amended,
- a detailed list of reference documents comprising a minimum those referred to in IMO Resolution MSC.215(82) as amended and/or MSC.288(87) as amended for the coating approval,
- details of test panel preparation, procedure of test panel identification, coating application, test procedures and a sample test report,

– details of exposure method and site for weathering primed test panels,
– a sample daily or weekly log/form for recording test conditions and observations including unforeseen interruption of the exposure cycle with corrective actions,
– details of any sub-contracting agreements (if applicable),
– comparison test report with an approved coating system or laboratory, if available.

9.12.1.3 Reporting

Reference is made to the following IACS Recommendations:
– Rec. 101 – IACS Model Report for IMO Resolution MSC.215(82) Annex 1: *Test Procedures for Coating Qualification*
– Rec. 102 – IACS Model Report for IMO Resolution MSC.215(82) Annex 1: *Test Procedures for Coating Qualification*, Section 1.7- Crossover Test

The test report shall be based on the guidelines given in PRS *Publication No. 87/P,* Annex 1 and Annex 2.

9.12.1.4 Test Laboratory Inspection

Inspection of the test laboratory shall be based on the requirements of Chapter 5 of this *Publication* and standards listed in IMO Resolution MSC.215(82) as amended and/or MSC.288(87) as amended for the coating approval.

9.13 Firms engaged in maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear

9.13.1 Extent of engagement

Maintenance, thorough examination, operational testing, overhaul and repair of:
.1 lifeboats (including free-fall lifeboats), all rescue boats (including inflated rescue boats and fast rescue boats) and
.2 launching appliances and on-load and off-load release gear for lifeboats (including primary and secondary means of launching appliances for free-fall lifeboat), rescue boats, fast rescue boats and davit-launched liferafts.

9.13.2 Extent of approval

9.13.2.1 The contents of this procedure apply equally to manufacturers or ship's operator when they are acting as Service Suppliers.

9.13.2.2 Any Service Supplier engaged in maintenance, thorough examination, operational testing, overhaul and repair of lifeboat and rescue boats, launching appliances and release gear performed in accordance with SOLAS regulation III/20 shall be approved for these operations for each make and type of equipment for which they provide the service in accordance with Res. MSC.402(96)/ Corr.1 (annex, section 7).

Such approval shall include, as minimum:
– employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or an equipment manufacturer's established certification program. In either case, the certification program shall be based on the paragraph 9.13.3 for each make and type of equipment for which service is to be provided; and,
– compliance with provisions of paragraphs 9.13.4, 9.13.5 and 9.13.6.

9.13.2.3 In cases where an equipment manufacturer is no longer in business or no longer provides technical support, Service Suppliers may be approved for the equipment on the basis of prior approval for the equipment and/or long term experience and demonstrated expertise as an authorized service provider.

9.13.3 Certification of personnel

9.13.3.1 Personnel for the work specified in 9.13.1 shall be certified by the manufacturer or the Service Supplier for each make and type of the equipment to be worked on. Approved Service Supplier is allowed to certify its own personnel (i.e. employed by the same Service Supplier) only.

9.13.3.2 The education for initial certification of personnel shall be documented and address, as a minimum:
- causes of lifeboat and rescue boat accidents;
- relevant rules and regulations, including International Conventions;
- design and construction of lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats, including on load release gear and launching appliances;
- education and practical training in the procedures specified in section 6 of Annex to Res. MSC.402(96)/Corr.1 for which certification is sought;
- detailed procedures for thorough examination, operational testing, repair and overhaul of lifeboats (including free-fall lifeboats) rescue boats and fast rescue boats, launching appliances and on load release gear, as applicable;
- procedures for issuing a report of service and statement of fitness for purpose based on Res. MSC.402(96)/Corr.1 (annex , paragraph 5.3); and
- work, health and safety issued while conducting activities on board.

9.13.3.3 The training for the personnel shall include practical technical training on thorough examination, operational testing, maintenance, repair and overhaul techniques using the equipment for which the personnel are to be certified. The technical training shall include disassembly, reassembly, correct operation and adjustment of the equipment. Classroom training shall be supplemented by field experience in the operations for which certification is sought, under the supervision of certified person.

9.13.3.4 Prior to issuance of personnel certification, a competency assessment shall be satisfactorily completed, using the equipment for which the personnel are to be certified.

9.13.3.5 Upon completion of training and competency assessment, a certificate shall be issued defining the level of qualification and the scope of the certification (i.e. makes and types of equipment and specifically state which activities (annual thorough examination and operational tests; 5-year thorough examination, overhaul; overload operational tests; repairs) are covered by the certification). The expire date shall clearly be written on the certificate and shall be three years from the date of issue. The validity of any certificate shall be suspended in the event of any shortfall in performance and only revalidated after a further competency assessment.

9.13.3.6 A competency assessment shall be conducted to renew the certification. In cases where refresher training is found necessary a further assessment shall be carried out after completion.

9.13.4 Reference Documents

The Service Supplier shall have access to the following documents:
- Res. MSC.402(96)/Corr.1 *Requirements for Maintenance, Thorough Examination, Operational Testing, Overhaul and Repair of Lifeboats and Rescue Boats, Launching Appliances and Release Gear*;
- Res. A.689(17), *Recommendation on Testing of Life-saving Appliances and, for Life-saving Appliances Installed on Board* on or after 1 July 1999,

– Res. MSC.81(70) as amended, *Revised Recommendation on Testing of Life-Saving Appliances*;
– Manufacturer's instructions (including updates, amendments and safety notice) for repair work involving disassembly or adjustment of on-load release mechanisms and davit winches;
– *Type Approval Certificates* showing any conditions that may be appropriate during the servicing and/or maintenance of lifeboats, launching appliances and on-load release gear.

9.13.5 Equipment and facilities

The Service Supplier shall have the following:
– sufficient tools, and in particular any specialized tools specified in the equipment manufacturer's instructions, including portable tools as needed for work to be performed on board ship;
– access to appropriate parts and accessories as specified by the equipment manufacturer for maintenance and repair;
– for servicing and repair work involving disassembly or adjustment of on-load release mechanisms, availability of genuine replacement parts as specified or supplied by the equipment manufacturer.

9.13.6 Reporting

The report shall conform to the requirements of IMO Resolution MSC.402(96)/Corr.1 (annex, paragraph 5.3). When repairs, thorough examinations and annual servicing are completed, a statement confirming that the lifeboat arrangements remain fit for purpose shall be promptly issued by the Service Supplier that conducted the work. A copy of valid documents of certification and authorization as appropriate shall be included with the statement.

9.14 Firms engaged in measurements of noise level on board ships

9.14.1 Extent of engagement

Sound pressure level measurements onboard Ship.

9.14.2 Supervisor

The supervisor shall have a minimum of 2 years of experience as an operator in sound pressure level measurements.

9.14.3 Operators

The operator shall have the following qualifications:
– knowledge in the field of noise, sound measurements and handling of measurement equipment;
– adequate knowledge of the applicable international requirements (SOLAS Regulation II-1/3-12, as amended, and *Code on Noise Levels on Board Ships*, as amended);
– at least 1 year's experience, including participation in a minimum of 5 measurement campaigns as an assistant operator;
– training concerning the procedures specified in *Code on Noise Levels on Board Ships*;
– be able to document theoretical and practical training onboard in using a sound level meter.

9.14.4 Equipment

9.14.4.1 Sound Level Meters

Measurement of sound pressure levels shall be performed using precision integrating sound level meters. Such meters shall be manufactured to IEC 61672-1(2002-05)1, as amended, type/class[4] standard as applicable, or to an equivalent standard acceptable to the Administration[5].

[4] Recommendation for sound level meters.
[5] Sound level meters class/type 1 manufactured according to IEC 651/IEC 804 may be used until 1 July 2016.

9.14.4.2 Octave Filter Set

When used alone, or in conjunction with a sound level meter, as appropriate, an octave filter set shall conform to IEC 61260 (1995)[6], as amended, or an equivalent standard acceptable to the Administration.

9.14.4.3 Sound Calibrator

Sound calibrators shall comply with the standard IEC 60942 (2003-01), as amended, and shall be approved by the manufacturer of the sound level meter used.

9.14.4.4 Calibration

Sound calibrator and sound level meter shall be verified at least every two years by a national Standard laboratory or a competent laboratory accredited according to ISO/IEC 17025:2017, as amended. A record with a complete description of the equipment used shall be kept, including a calibration log.

9.14.4.5 Microphone Wind Screen

A microphone wind screen shall be used when taking readings outside, e.g. on navigating bridge wings or on deck, and below deck where there is any substantial air movement. The wind screen shall not affect the measurement level of similar sounds by more than 0.5 dB(A) in "no wind" conditions.

9.14.5 Procedures and instructions

9.14.5.1 The supplier shall have documented procedures and instructions to perform service of the equipment.

Documented work procedures shall at least contain information on inspection preparation, selection and identification of sound level measurement locations, calibration checks and report preparation.

9.14.5.2 The supplier shall have access to the following documents:
- *SOLAS 1988*, as amended (Reg.II-1/3-12);
- Res. A.468(XII) and MSC.337(91) – *Code on Noise Levels on Board Ships*;
- Res. A.343(IX) *Recommendation on methods of measuring noise levels at listening posts*;
- *PRS Rules and Guidelines*.

9.14.6 Reporting

A noise inspection report shall be made for each ship. The report shall comprise information on the noise levels in the various spaces on board. The report shall show the reading at each specified measuring point. The points shall be marked on a general arrangement plan, or on accommodation drawings attached to the report, or shall otherwise be identified.

The format for noise inspection reports is set out in appendix 1 of *Code on Noise Levels onboard Ships* and may conform to any other specific requirement of PRS (refer to Res. MSC.337(91)).

9.14.7 Verification

The supplier shall have the Surveyor's verification of each separate job, documented in the report by his signature.

[6] Octave-band and fractional-octave-band filters.

9.15 Firms engaged in tightness testing primary and secondary barriers of gas carriers with membrane cargo containment systems for vessels in service

9.15.1 Extent of engagement

Firms performing the following:
- global vacuum testing of primary and secondary barriers,
- acoustic emission (AE) testing,
- thermographic testing.

9.15.2 Requirements for firms engaged in global testing of primary and secondary barriers

9.15.2.1 *Testing procedures* – testing shall be performed in accordance with cargo containment system designer's procedures as approved by the PRS.

9.15.2.2 *Authorization* – the Service Supplier shall be authorized by the system designer to perform the testing.

9.15.2.3 *Equipment* – equipment shall be maintained and calibrated in accordance with recognized national or international industrial standards.

9.15.2.4 *Reporting* – the report shall contain the following:
- date of testing,
- identity of test personnel,
- vacuum decay data for each tank,
- summary of test results.

9.15.3 Requirements for firms engaged in acoustic emission (AE) testing

9.15.3.1 *Testing procedures* – the Service Supplier shall have documented procedures based upon recognized national or international industrial standards to perform ultrasonic leak test using AT sensors for the secondary barrier of membrane cargo containment systems. The procedures shall include details of personnel responsibilities and qualification, instrumentation, test preparation, test method, and signal processing, evaluation and reporting.

Note: The differential pressure during testing shall not exceed the containment system designers' limitations.

9.15.3.2 *Supervisor* – the responsible supervisor shall be certified to a recognised national or international industrial standard (e.g. Level II ISO 9712 as amended or SNT-TC-1A as amended) and have one year experience at Level II.

9.15.3.3 *Operators* – the operators performing the acoustic emission (AE) testing shall be certified to a recognized national or international industrial standard (e.g. Level I ISO 9712 as amended or SNT-TC-1A as amended) and shall have adequate knowledge of ship structures sufficient to determine sensor placement.

9.15.3.4 *Equipment* – equipment shall be maintained and calibrated in accordance with recognized national or international industrial standards or equipment manufacturer's recommendations.

9.15.3.5 *Evaluation of acoustic emission* (AE) *testing* – shall be performed by the supervisor or individuals certified to a recognized or international industrial standard (e.g. Level II ISO 9712 as amended or ANT-TC-1A as amended) and have one year experience at Level II.

9.15.3.6 *Reporting* – the report shall contain the following:
- date of testing,
- supervision and operator(s) certifications,

– description of time and pressure of each cycle of test,
– list and sketch detailing location of possible defects.

9.15.4 Requirements for firms engaged in thermographic testing

9.15.4.1 *Testing procedures* – testing shall be performed in accordance with cargo containment system designer's procedures as approved by the PRS.

9.15.4.2 *Authorization* – the Service Supplier shall be authorized by the system designer to perform the testing.

9.15.4.3 *Supervisor* – the responsible supervisor shall be certified to a recognised national or international industrial standard (e.g. Level II ISO 9712 as amended or SNT-TC-1A as amended) with additional certification in infrared/thermal testing. SNT-TC-1A certified personnel must provide evidence that training on Level II or above has been administered by an independent training body centrally certified to ASNT or a comparable nationally recognized certification scheme.

9.15.4.4 *Operators* – the operators performing the imaging shall be certified to a recognized national or international industrial standard (e.g. Level I ISO 9712 as amended or SNT-TC-1A as amended) with additional certification in infrared/thermal testing and shall have adequate knowledge of ship structures sufficient to determine position for each identified image, and of the containment system to understand the basis of the testing. SNT-TC-1A certified personnel must provide evidence that training on Level I or above has been administered by an independent training body centrally certified to ASNT or a comparable nationally recognized certification scheme.

9.15.4.5 *Equipment* – thermal cameras and sensors shall be in accordance with the system designer's procedures with regards to sensitivity, accuracy and resolution.

Equipment shall be in accordance with recognized standards (IEC, etc.) with regards their safety characteristics for the use in hazardous areas (in gas explosive atmosphere), maintained and calibrated in accordance with the marker's recommendations.

Evaluation of thermographic images shall be performed by the supervisor or individuals certified to a recognized or international industrial standard (e.g. Level II ISO 9712 as amended or SNT-TC-1A as amended) with additional certification in infrared/thermal testing. SNT-TC-1A certified personnel must provide evidence that training on Level II or above has been administered by an independent training body centrally certified to ASNT or a comparable nationally recognized certification scheme.

9.15.4.6 *Reporting* – the report shall contain the following:
– date of testing,
– supervision and operator(s) certifications,
– differential pressures of all phases,
– list and sketch detailing location of thermal indications,
– thermographic images of all phases of testing for thermal indications,
– evaluation of thermal images indicating possible leaks.

9.16 Firms engaged in survey using Remote Inspection Techniques (RIT) as an alternative means for Close-up Survey of the structure of ships and mobile offshore drilling units

9.16.1 Definitions:

Close-up Survey – a survey where the details of structural components are within the close visual inspection range of surveyor i.e. normally within reach of hand.

Remote Inspection Techniques (RIT) – a means of survey that enables examination of structure without the need for direct physical access of the surveyor (refer to Rec.42). Remote inspection techniques may include the use of:
- Unmanned Aerial Vehicles (UAV);
- drones;
- unmanned robot arm;
- Remotely Operated Vehicles (ROV);
- climbers;
- other means acceptable to the Society.

9.16.2 *Extent of engagement* – Close up Survey of ships' structure and mobile offshore drilling units' structure by remote inspection techniques. For in-water close-up survey of the internal compartments by Remotely Operated Vehicle (ROV), suppliers are also to hold separate approval as a "Firm carrying out an in-water survey on ships and mobile offshore units by diver or Remotely Operated Vehicle (ROV) (see Section 9.3).

9.16.3 *Training and qualification of operators* – the supplier is responsible for the training and qualification of its operators to undertake the remote inspections. UAV Pilots shall be qualified and licenced in accordance with applicable national requirements or an equivalent industrial standard acceptable to the society.

Knowledge of the following shall be documented:
- marine and/or offshore nomenclatures.
- the structural configuration of relevant ships types and MOUs, including internal structure.
- the remote inspection equipment and its operation.
- survey plans for examination of hull spaces of various configurations, including appropriate flight plans if using a UAV.
- thickness measurement (TM) and non-destructive examination (NDE) in accordance with a recognised National or International Industrial NDE Standard when these are part of the service. Suppliers undertaking TMs are to hold separate approval as a Firm engaged in thickness measurements on ships' (see Section 9.1).

9.16.4 *Training Plan* – the suppliers shall maintain a documented training plan for personnel. The plan shall include requirements for training in the minimum Rule requirements for the structure of relevant ships types and MOUs, the recognition of structural deterioration (including corrosion, buckling, cracking and deteriorated coatings) and use of the reporting system.

9.16.5 *Supervisor* – the supervisor shall be certified according to the recognized national requirements or an equivalent industrial standard and shall have a minimum of two years' experience in the inspection of ship's and/or MOU's structure.

9.16.6 *Operators* – the operator carrying out the inspection shall be certified according to the recognized national requirements or an equivalent industrial standard and have had at least one year's experience as an assistant carrying out inspections of ship's and/or MOU's structure (including participation in minimum of five different assignments).The operators of those RIT which require, according to the international and national legislations, to be licensed for their use shall hold valid documentation issued by the appropriate Bodies (e.g. UAV Pilots are to be qualified and licenced in accordance with applicable national requirements).

9.16.7 The following equipment shall be available:
- remotely operated platform with data capture devices capable of operation within an enclosed space;

- means of powering the platforms with sufficient capacity to complete the required inspections, including spare batteries if applicable;
- data collection devices which may include cameras capable of capturing in high definition both video images and still images;
- illumination equipment.
- high definition display screen with live high definition feed from inspection cameras (when this is part of the RIT);
- means of communication;
- data recording devices, as applicable;
- equipment for carrying out thickness gauging and/or non-destructive testing, as relevant to the work to be performed (when this is part of the service).

9.16.8 *Procedures and guidelines* – The supplier shall have documented operational procedures and guidelines for how to plan, carry out and report inspections, how to handle/operate the equipment, collection and storage of data. These shall include:

- requirements for preparation of inspection plans when UAV are part of the equipment flight plans shall be included;
- operation of the remotely operated platforms;
- operation of lighting;
- calibration of the data collection equipment;
- operation of the data collection equipment;
- two-way communication between the operator, platform, Surveyor, other personnel such as support staff and ships officers and crew;
- guidance of the operator to provide complete coverage of the structure to be inspected;
- guidance for the maintenance of the remotely operated platforms, data capture and storage devices and display screens, as applicable;
- requirements for the collection and validation of data;
- if data is to be stored, then requirements for location attribution (geo-tagging), validation and storage of data;
- requirements for the reporting of inspection, including the recording of damages and defects found during inspection and repair work.

9.16.9 *Documentation and records* – The supplier shall maintain the following:

- records of training;
- Operator statutory and regulatory certificates and licences;
- equipment register for UAVs, robots, data collection devices, data analysis devices and associated equipment necessary to perform inspections;
- equipment maintenance manuals and records/logbook;
- records of calibration;
- UAV/robot operation logbook.

9.16.10 *Verification* – the supplier must have the Surveyor's verification of each separate job, documented in the report by the attending Surveyor(S) signature.

9.17 Service suppliers engaged in assembly and maintenance involving plastics' welding

9.17.1 Scope of services rendered

Welding, including solvent welding, involves the following processes:

- hot gas welding: round nozzle, high speed nozzle, wedge as well as extrusion welding;
- heated tool welding: butt, saddle, socket, wedge;
- electrofusion welding: socket, saddle.

The following products are subject to welding:
– sheet;
– pipe;
– fittings;
– lining membrane

made of the following groups of materials in accordance with standard EN 13067, see Table 9.16.1.

Table 9.17.1
Plastic material groups

For sheets, pipes and fittings	Group 1	**PVC** (PVCU, ABS, PC)	PVC – polyvinyl chloride PVC-U – PCV-C
	Group 2	**PP**	PP – polypropylene
	Group 3	**PE** (PE, PB)	PE – polyethylene PB – polybutylene
	Group 4	**PVDF**	PVDF – polivinylidene fluoride
	Group 5	**ECTFE** PFA, FEP	ECTFE – ethylene – chlorotrifluoroethylene copolymer ethylene / chlorotrifluoroethylene PFA – perfluoroalkoxy alkane FEP – copolymer hexafluoropropylene/tetrafluoroethylene
For lining membranes	Group 6	**PVP-P**	PVP-P– Polyvinyl pyrrolidone
	Group 7	**PE**	PE – polyethylene
	Group 8	**ECB**	ECB – ethylene-copolymer-bitumen
	Group 9	**PP**	PP – polypropylene

9.17.2 Quality management system

Service Suppliers shall have a quality management system certified in accordance with standard PN-EN ISO 9001.

9.17.3 Personnel register

Service Suppliers shall maintain the register of personnel qualified to perform welding operations with plastics. The register shall contain information on their age, qualifications, training/ apprenticeship and experience in rendering the relevant services as well as the expiry date of the welder qualification certificates with respect to the Service Supplier's scope of approval.

9.17.4 Supervision

Supervisors shall – in addition to the fulfilment of the requirements specified in 5.2.3 – shall have valid welder's qualification certificate for plastic welding operations and at least 2-year documented professional experience in welding of plastics of the particular material group using the supervised welding procedures. Supervisors shall also possess the knowledge of relevant standards and the implemented in-house welding procedures.

9.17.5 Technical personnel

Technical personnel involved in the plastic welding operations shall:
– have passed the qualification test for the welding of plastics;
– have welders qualification certificates to perform certain tasks;
– complete an in-house training course held by the supervisory personnel in respect of the welding operations and techniques implemented by the Service Supplier.

9.17.6 Technical arrangements and instrumentation

Service Suppliers shall have implemented respective manufacturing, assembly, repair and modernization processes for the products made of plastics. They shall have adequate basic and auxiliary arrangements and instrumentation to ensure that the manufacturing, assembly, repair and modernization operations are performed in accordance with the approved technology. Service Suppliers shall have a list of such arrangements and instrumentation containing the information of their types, manufacturers and records regarding their maintenance and calibration.

Where the arrangements use software during tests/measurements, such software shall be described in sufficient detail and validated.

9.17.7 Procedures

Documented working procedures shall include information at least on the particular welding technique for which the approval is sought.

9.17.8 Verification

Service Supplier shall have the verification of each particular procedure confirmed by PRS Surveyor's signature on the report.

9.17.9 Service Supplier's inspection

Service Supplier is subject to the inspection in accordance with the requirements specified in sub-chapter 5.3 of this *Publication*.

9.18 Firms quoting verified gross mass of container (VGM) by Method 2

9.18.1 Methods of measurement of cargo weight

Weighing cargo components:
- summing up cargo weight on pallets and in boxes,
- summing up previously weighed collective packages,
- summing up readings of the production line weighing scales concerning the cargo batch,
- summing up pieces of components of known weight,

Adding up container tare to the above sum of cargo weight

9.18.2 Quality management system

Service Supplier holding Quality Management System Certificate issued in accordance with PN-EN ISO 9001 Standard will be subject to renewal inspections at 3 year intervals, otherwise where there is no such certificate – at annual intervals.

9.18.3 Personnel records

Service Supplier shall keep a record of employees authorized to quote (calculate) verified gross mass (VGM) of container.

9.18.4 Surveillance

The employee responsible for the supervision, except fulfilling the requirements specified in 5.2.3, shall prove knowledge of procedures for quoting VGM implemented in the firm.

9.18.5 Measuring devices

The shipper shall have implemented appropriate technology of weighing individual cargo components. He should have appropriate certified weighing scales of class IIII (standard).

The firm shall maintain a list of such equipment. The list shall contain information on the types of weighing equipment and records on its maintenance and verification.

For the weighing equipment in production lines which uses central data base for the determination of VMG, it shall be described and approved by appropriate procedure.

9.18.6 Procedures

Documented work procedures shall contain information on the method of weighing, method of summing individual cargo components and auxiliary materials, on periodical control of determination of total weigh and estimation of the maximum error of quoted weigh.

9.18.7 Verification

The shipper shall gain from PRS Surveyor confirmation of verification for each separate procedure, this being endorsed on the report.

9.18.8 Inspection at Service Supplier

The inspection at Service Supplier quoting verified gross mass (VGM) of container is carried out according to requirements of subchapter 5.3 of this *Publication*.

9.19 Non-destructive testing Service Suppliers

9.19.1 Extent of engagement

Firms providing non-destructive testing (NDT) and advanced non-destructive testing (ANDT1) services on the new construction of ships and offshore structures subject to classification, need to fulfil the requirements set out in this Publication. In this document, such firms will be referred to as the NDT Service Supplier.

Note 1 – for the remainder of this publication, wherever there is a reference to NDT, it also includes ANDT

This publication applies to:
- Independent NDT companies, and;
- Internal departments of fabricators, e.g., shipyards, hull block/section fabricators performing NDT.

The NDT service specified in this publication covers the service application to the following hull structure and associated items at the fabrication stage during new construction:
- the welding of components that are integrated into the ship or offshore structure;
- the fabrication of independent fuel or cargo tanks (including those intended for low flashpoint fuels, e.g. type A, B and C independent tanks as described in IMO *IGC* and *IGF Codes*);
- items listed within the definition of hull structure;
- rudders of welded construction

9.19.2 Objective

The objective of this publication shall ensure that the NDT Service Supplier is using appropriate procedures, has qualified and certified personnel and has implemented written procedures for training, experience, education, examination, certification, performance, application, control, verification and reporting of NDT. In addition, the NDT Service Supplier shall furnish appropriate equipment and facilities commensurate with providing a professional NDT Service.

9.19.3 Terms and definitions

The following terms and definitions apply for this sub-chapter:

NDT – non-destructive testing – the development and application of technical methods to examine materials or components in ways that do not impair their future usefulness and serviceability, in order to measure geometrical characteristics and to detect, locate, measure and evaluate flaws. NDT is also known as non-destructive examination (NDE), non-destructive inspection (NDI) and non-destructive evaluation (NDE). Comprising, but not limited to the following methods and techniques: MT, PT, RT, RT-D, VT, UT, ET;

ANDT – The above definition of NDT applies, however ANDT includes advanced methods such as RT-D, PAUT, TOFD and AUT.

NDT Service Supplier – Independent NDT company or NDT department/section that forms a part of a company providing NDT Services on the new construction of ships and offshore structures, as applicable to the bodies performing NDT on the items as listed in paragraph 9.19.1 of this Publication.

Society – The Classification Society

MT – Magnetic Particle Testing;

PT – Penetrant Testing;

RT – Radiographic Testing;

RT-D – Digital Radiography (Several techniques within the method RT, e.g. Computer Radiography or Direct Radiography);

UT – Ultrasonic Testing;

PAUT – Phased Array Ultrasonic Testing (Technique within the method UT);

TOFD – Time of Flight Diffraction (Technique within the method UT);

AUT – Automated Ultrasonic Testing. A technique by which an object is tested by ultrasound using probes operating under mechanical control and where ultrasonic data is collected automatically.

ET – Electromagnetic Testing (i.e. Eddy Current Testing and/or Alternating Current Field Measurement ACFM);

VT – Visual Testing;

Industrial sector – Section of industry or technology where specialised NDT practices are used, requiring specific product-related knowledge, skill, equipment and/or training.

Product sector – A category of component that may be defined by type of manufacturing, fabrication, and/or shape, which may have unique, and/or general manufacturing/fabrication defect characteristics. Product sector examples include (but not limited to): castings, wrought products (forgings), rolled products, extruded products, and welds.

NDT personnel may hold certification in a method which is related to a product sector.

9.19.4 References

The following referenced documents shall be used for the application of this document as appropriate. For updated references, the latest edition of the referenced document (including any amendments) applies.

- ISO 9712: 2021; Non-destructive Testing-Qualification and certification of NDT personnel;
- ISO/IEC 17020:2012; Conformity assessment - Requirements for the operation of various types of bodies performing inspection;

– ISO/IEC 17024:2012; Conformity assessment - General requirements for bodies operating certification of persons;
– ISO 9001:2015; Quality Management Systems-Requirements;
– SNT-TC-1A: 2020; Personnel qualification and certification in nondestructive testing;
– ANSI/ASNT CP-189:2020; ASNT Standard for qualification and certification of nondestructive testing personnel.

Other national adoptions of the standards listed above are accepted as compliant and hence are accepted for use together with this Publication.

9.19.5 Requirements for the NDT Service Supplier

The NDT Service Supplier shall document, as required in 9.19.5.2 to 9.19.5.9, that it has the competence and control needed to perform the specified NDT Services.

9.19.5.1 Requirements for documents

The following documents shall be submitted to PRS, additionally to the documents listed in 5.1.1:
– information on the structure of the NDT Service Supplier's Quality Management System;
– written practice developed in accordance with a recognised standard or recognised practice (i.e. SNT-TC-1A or ANSI/ASNT CP-189 or similar) – for companies with in-house certification of persons scheme;
– operational work procedures for each NDT method including selection of the NDT technique;
– written statement issued by the employer, based upon the scope of certification, authorizing the operator to carry out specified tasks;
– training and follow-up programmes for NDT operators including practical training on various ships and offshore products;
– procedure for supervisor's authorisation of NDT operators;
– experience of the NDT Service Supplier in the specific service area;
– for companies which obtain certification from an accredited certification body: a list of documented training and experience for NDT operators within the relevant service area, including qualifications and third party certification per ISO 9712 based certification schemes;
– description of equipment used for the NDT Services performed by the NDT Service Supplier;
– a guide for NDT operators to use equipment mentioned above,
– record formats for recording results of the services referred in 9.19.11;
– information on other activities which may present a conflict of interest, if applicable;
– record of customer claims and corrective actions, where applicable;
– any legal proceedings against the company in the past/currently in the courts of law, where applicable.

9.19.5.2 Quality management system

The NDT Service Supplier shall have a documented quality management system, covering at least:
– work procedures for all tasks and operations, including the various NDT methods and NDT techniques for which the NDT Service Supplier is involved;
– preparation, issuance, maintenance and control of documents;
– maintenance and calibration of the equipment;
– training programs for the NDT operators and the supervisors;
– maintenance of records for NDT operators, and the supervisors' training, qualification and certification;

– certification of NDT operators including re-validation and recertification;
– procedure for test of operators' visual acuity;
– supervision and verification of operation to ensure compliance with the NDT procedures;
– quality management of subsidiaries;
– job preparation;
– order reference system where each engagement is traceable to when, who and where the test was carried out;
– recording and reporting of information, including retention time of records;
– code of conduct for the NDT Service Supplier's activities, especially the NDT activities;
– periodic review of work process procedures;
– corrective and preventive action;
– feedback and continuous improvement;
– internal audits;
– the provision of accessibility to required codes, standards and procedures to assist NDT operators.

A documented quality system complying with the most current version of ISO/IEC 17020 and including the above would be considered acceptable. The NDT Service Supplier should satisfy the requirements of Type A, or Type B or Type C inspection body, as described in ISO/IEC 17020. In all cases, production staff shall not be allowed to inspect their own work in the case of Type C inspection body.

9.19.5.3 Qualification and certification of NDT personnel

The NDT Service Supplier is responsible for the qualification and preferably third-party certification of its supervisors and operators to a recognised certification scheme based on ISO 9712.

Level 1 – personnel qualification to an employer-based qualification scheme as e.g. SNT-TC-1A or ANSI/ASNT CP-189 may be accepted if the NDT Service Supplier's written practice is reviewed and found acceptable by PRS. The NDT Service Supplier's written practice shall as a minimum, except for the impartiality requirements of a certification body and/or authorised body, generally comply with the requirements of ISO 9712.

Level 2 – The NDT Service supervisors' and operators' certificates and competence shall comprise all industrial sectors and techniques being applied by the supplier.

For NDT operators holding certificates issued via an employer based scheme, the employer's certification shall be deemed revoked when employment is terminated by either party.
The supervisors' and operators' certificates and competence shall comprise all industrial and product sectors and techniques being applied by the NDT Service Supplier.

Level 3 – personnel shall be certified by one of the following means:
– obtain certification from an accredited certification body.
– obtain certification from an employer based scheme via the examination method, as detailed in the written practice. It is not permissible to directly appoint a level 3 without examination if the intended certification route is from an employer based scheme.

9.19.5.4 Supervisor

The NDT Service Supplier shall have a supervisor or supervisors, responsible for the following:

a) validate NDT instructions and procedures established and reviewed by level 3 personnel;
b) review of NDT reporting;
c) supervise all tasks and NDT operations at all levels;

d) inspection of NDT equipment, tools and calibration;
e) re-evaluate the qualification of the operators annually on behalf of the NDT Service Supplier.

Normally, the NDT Service Supplier shall employ (on a full-time basis) a level 3 supervisor, certified to level 3 in the applicable method(s) as per the requirements of this publication.

It is recognised that an NDT Service Supplier may not directly employ a Level 3 in all the stated methods practiced. In such cases, it is permissible to employ an external Level 3 who is certified by an accredited certification body in those methods not held by the full-time Level 3(s) of the NDT Service Supplier.

Alternatively, and by agreement with the Society, the NDT Service Supplier may appoint an internal (full-time employed) supervisor of NDT activities, who does not hold level 3 certification. In this case, the supervisor shall be certified to a minimum of level 2.
For NDT Service Suppliers operating this alternative approach, the NDT Service Supplier shall comply with all other requirements of this UR and shall employ (either part time or on a contract basis) Level 3 NDT Services (to carry out functions such as procedure development, procedure approval, consultancy, review etc.) from outside the NDT Service Supplier organisation. The appointed external level 3 shall be certified by an accredited certification body in all the applicable methods appropriate to the scope of the NDT operations.

9.19.5.5 Operators

The operator carrying out the NDT and interpreting indications, shall as a minimum, be qualified and certified to Level 2 in the NDT method(s) concerned and as described in 9.19.5.3.

However, operators only undertaking the gathering of data using any NDT method and not performing data interpretation or data analysis may be qualified and certified as appropriate, at Level 1.

The operator shall have adequate knowledge of materials, weld, structures or components, NDT equipment and limitations that are sufficient to apply the relevant NDT method for each application appropriately.

9.19.5.6 Equipment

The NDT Service Supplier shall maintain records of the NDT equipment used and detail information related to maintenance, calibration and verification activities. If the NDT Service Supplier hired equipment, such equipment shall have updated calibration records, and the operators shall be familiar with the specific equipment type prior to using it. Under any circumstance, the NDT Service Supplier shall possess sufficient equipment to carry out the NDT services being a part of the NDT scope required by PRS.

Where the equipment is of unique nature, the NDT operators shall be trained by competent personnel in the operation and use of the equipment before carrying out NDT using this equipment.

9.19.5.7 Work instructions and procedures

The NDT Service Supplier shall produce written procedures for the NDT being applied. These procedures shall be written, verified or approved by the NDT Service Supplier's Level 3 (either internal, or external, as described in section 9.19..4). Procedures shall define all relevant information relating to the inspection including defect evaluation against acceptance criteria in accordance with *PRS Rules*. All NDT procedures and instructions shall be properly documented in such a way that the performed testing can be easily retraced and/or repeated at a later stage. All NDT procedures shall be acceptable to PRS.

9.19.5.8 Sub-contractors

The NDT Service Supplier shall give information of agreements and arrangements if any part(s) of the NDT services provided are subcontracted, included level 3 NDT Services (as described in section 9.19.5.4). The NDT Service Supplier, in the following-up of subcontractors shall give emphasis to the quality management system of the subcontractor.

Subcontractors shall meet the same requirements placed on NDT Service Suppliers for any NDT performed.

9.19.5.9 Reporting

All NDT shall be properly documented in such a way that the performed testing and examination can be easily retraced and/or repeated at a later stage. The reports shall identify the defects present in the tested are, and a conclusive statement as to whether the material, weld, component or structure satisfies the acceptance criteria or not.

The report shall include a reference to the applicable standard, NDT procedure and acceptance criteria applied in the applicable NDT method/technique. In general, the acceptance criteria shall comply with the PRS Rules. Reports shall be signed by the personnel with the appropriate level of certification, and the appropriate signatory status as defined in the Quality Management System.

9.20 Requirements for Service Suppliers carrying out the commissioning testing of ballast water management systems (BWMS)

9.20.1 Application

The below provisions apply to the commissioning tests of ballast water management systems (BWMS), carried out by sampling and analysis of ballast water, to confirm that the ship complies with the requirements of the BWM Convention.

9.20.2 Reference documents

The firm carrying out commissioning testing of BWM systems should observe the guidelines contained in the following documents:

- 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 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 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 A.1156(32) – *Survey guidelines under the harmonized system of survey and certifications (HSSC), as amended (for BWMS that were type approved to the 2016 G8)*.

9.20.3 Procedure

Service Suppliers shall:

- have documented procedures including:
  - procedures for sampling collection and handling, analysis, assessment of BWMS correct operations and documenting and reporting. The procedures shall 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.
- be familiar with the BWMS operation including features and limits of each treatment technology, and self-monitoring parameters.
- be independent of the BWMS manufacturer or supplier including shipyards.

9.20.4 Operators

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

- 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[7];
- be trained in the proper use of detailed analysis methods and equipment in case the Service Supplier offers detailed analysis. Review of training records and/or interviews should be conducted to confirm the equipment will be properly used during testing [7];
- 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) [7];
- 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[7];
- be trained in the proper disposal procedures for water samples following testing[7];
- 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 (TRO – total residual oxidant), 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[8];
- 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[8];

Note: Points above without symbol [7] or [8] are the common qualifications for Service Supplier.

[7] Qualifications for operators performing sampling and analysis of ballast water.
[8] Qualifications for operators performing verification of the self-monitoring equipment.

9.20.5 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.

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 shall 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 to 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.

The Service Supplier will need to use specialty devices (e.g. sieves, screens, etc.) to separate the different organism sizes classes (i.e., ≥ 10 µm to < 50 µm, and ≥ 50 µm, and indicator microbes) to support analysis of each size class.

Equipment used for the analysis of other physical-chemical water parameters shall 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.

9.20.6 Sampling and analysis

Service Suppliers shall follow relevant guidelines on sampling of ballast water. A standard operating procedure shall 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 ≥ 50 µm and ≥ 10 µm to < 50 µm, 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 have equipment certified for use in such spaces.

9.20.7 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 shall 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,
- BWMS treatment mode of operation, e.g. high power, low power, single pass, IMO mode, USCG Mode, etc,
- treatment rated capacity (TRC) in m^3/h,
- relevant performance parameters (e.g. TRO, UV dose, UVI, flow rate or other relevant performance parameters),
- alarms developed during operation,
- Type Approval issued by and Certificate No.,
- results of sample analysis,
- pump and ballast tanks used for the commissioning test, including the flow rates and volumes of the ballasting and deballasting operations,
- comments/options: filter and other major components, process measurements.

9.21 Firms engaged in Cable Transit Seal Systems inspection on ships and mobile offshore drilling units

9.21.1 Extent of engagement

Inspection of the cable transit seal systems for compliance with the relevant approval certificates and product installation manuals (type of penetrating cables, dimensions, fill ratio and insulation details, as applicable).

9.21.2 Extent of approval

9.21.2.1 The contents of this procedure apply equally to manufacturers or shipyards when they are acting as Service Suppliers.

9.21.2.2 Any Service Supplier engaged in the inspections of cable transit seal systems shall be qualified in these inspections for each make and type of equipment for which they provide the inspection, and provide manufacturers documentary evidence that they have been so authorized or they are certified in accordance with an established system for training and authorization. Such qualification shall include, as a minimum:

- employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or an equipment manufacturer's established certification program. In either case, the certification program shall be based on the paragraph 9.21.3 for each make and type of equipment for which inspection is to be provided, and
- compliance with provisions of paragraphs 9.21.4, 9.21.5 and 9.21.6.

9.21.2.3 In cases where an equipment manufacturer is no longer in business or no longer provides technical support, Service Suppliers may be authorised for the equipment service on the basis of prior authorization for the equipment and/or long term experience and demonstrated expertise as an authorized service provider.

9.21.3 Qualifications and training of personnel

9.21.3.1 Personnel for the work specified in 9.21.1 shall be trained and qualified in the inspection for which they are authorised, for each make and type of equipment for which they provide the inspection.

9.21.3.2 The education for initial certification of personnel shall be documented and addressed, as a minimum:
- procedures and instructions for the inspection of the cable transit seal systems,
- common problems found with the initial installation and in-service inspections of cable transit seal systems,
- relevant rules and regulations, including international conventions,
- procedures for reporting on initial installation and in-service inspections of cable transit seal systems in the Cable Transit Seal Systems Register.

9.21.3.3 The education and training for the personnel shall include practical technical training on actual inspection using the cable transit seal systems for which the personnel are to be certified. The technical training shall include disassembly, reassembly and adjustment of the equipment. Classroom training shall be supplemented by field experience in the inspections for which certification is sought, under the supervision of any experienced senior certified person.

9.21.3.4 At the time of initial certification and at each renewal of certification, the Service Supplier shall provide documentation to verify personnel's satisfactory completion of a competency assessment using the equipment for which the personnel are certified.

9.21.3.5 The Service Supplier shall require refresher training as appropriate to renew the certification.

9.21.4 Reference documents

The Service Supplier shall have access to the following documents:
- Manufacturer's servicing manuals, servicing bulletins, instructions and training manuals as appropriate.
- Type Approval certificate showing any conditions that may be appropriate during the installation or maintenance of the cable transit seal system.

9.21.5 Equipment and facilities

The Service Supplier shall have access to the following:
- sufficient tools, and in particular any specialized tools specified in the equipment manufacturer's instructions, including portable tools as needed for work to be carried out on board ship.

9.21.6 Reporting

On completion of inspection, the Service Supplier will issue a report confirming the condition of the cable transit seal system. They will also record the results of their inspection in the Cable Transit Seal System Register.

9.22 Firms engaged in the monitoring of machinery technical condition

9.22.1 Range of services

Monitoring of machinery technical condition for classification purposes.

9.22.2 Range of approval

Firms are approved to carry out the monitoring of machinery technical condition, when the direct measurement results are to be used as a part of an approved technical condition monitoring system of a piece of machinery.

Such approval may cover the following activities: collection and recording of measured data, system installation and set-up, calibration of condition monitoring equipment, diagnostics, prognostics and other forms of technical condition monitoring data acquisition and analysis.

The list of approved activities in the field of monitoring particular machinery technical condition shall comply with the relevant recognized international standard in the scope of required methodology and technique adequate to the type of given machinery.

9.22.3 Training and competence

The firm personnel must be suitably trained and qualified to perform the activities covered by the approval.

Each of the measurement staff members should have competences documented with a valid certificate covering the performed activities and granted by a certified Training Center accredited for compliance with individual parts of the ISO-18436 standard or its recognized equivalent.

9.22.4 Measuring devices and equipment

All measuring and data collection devices must be calibrated to the relevant international standards and certified prior to their use for the monitoring of machinery technical condition.

Appropriate documents (reports, certificates) confirming the performed calibration shall be available upon request of PRS surveyor.

9.22.5 Reports and other documents

Reports on the monitoring of machinery technical condition and other documents related to the performed measurements or other monitoring activities must be archived in accordance with the required procedures for safe storage and access to the collected data.

Access to the collected data, allowing for their review, printing or downloading archived documents, should be provided at any time upon an authorized request. The archiving period cannot be shorter than the classification cycle (5 years).

Reports should contain all information in a transparent form and specify the purpose and details of the monitoring of machinery technical condition as well as other data in accordance with the applicable standard or the applicable requirements of the *PRS Rules*.

List of amendments effective as of 1 January 2025

Item	*Title/Subject*	*Source*
1.1	Scope – add text	*W35 Rev. 1 Oct. 2023*
9.19	Non-Destructive Testing Service Suppliers – change and add text	”
9.19.1	Extent of Engagement – change the topic and add text	”
9.19.2	Objective – add topic	”
9.19.3	Terms and definitions – add some definitions	”
9.19.4	References – add the topic	”
9.19.5	Requirements for NDT Service Supplier – add the toppic	”
9.19.5.1	Requirements for documents – add definitions	”
9.19.5.2	Quality management system - add definitions	”
9.19.5.3	Qualification and certification of NDT personnel	”
9.19.5.4	Supervisor	”
9.19.5.5	Operators	”
9.19.5.6	Equipment	”
9.19.5.7	Work instructions and procedures	”
9.19.5.8	Sub-contractors	”
9.19.5.9	Reporting	”