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KR
KOREAN REGISTER
**TECHNICAL
INFORMATION**

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Subject : Guidance for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boat, launching appliances and release gear as per Res.MSC.402(96)

IMO adopted Res.MSC.402(96) as a mandatory requirement for maintenance, thorough examination, operational testing, overhaul and repair of lifeboat, launching appliances and release gear at MSC 96. From January 1st 2020, service provider approved by ship's administration or authorized RO shall carry out the maintenance, thorough examination, operational testing, overhaul and repair. Hence, ship's owners and operators, service providers, class surveyors are required to pay keen attention to this technical information and attached documents to ensure the ship's safe operation and survey.

1. Related requirements

- 1.1 SOLAS Regulation III/20 – Operational readiness, maintenance and inspections
- 1.2 SOLAS Regulation III/36 – Instructions for onboard maintenance
- 1.3 Res.MSC.402(96)
- 1.4 Res.MSC.404(96)

2. Application

- 2.1 Lifeboats, free-fall lifeboats, rescue boats, fast rescue boats
- 2.2 Launching appliances and on-load and off-load release gear for lifeboats(including primary and secondary means of launching appliances for free-fall lifeboats), rescue boats, fast rescue boats and davit-launched liferafts.

3. Qualification levels and certification

- 3.1 Weekly and monthly inspections and routine maintenance as specified in the

equipment maintenance manual(s) shall be conducted by authorized service providers or by shipboard personnel under the direction of a senior ship's office in accordance with the maintenance manual(s).

3.2 Annual thorough examination and operational tests shall be conducted by certified personnel of either the manufacturer or an authorized service provider. The service provider may be the ship operator provided that it is authorized in accordance with section 3 and 7 of Res.MSC.402(96).

3.3 Five-year thorough examination, any overhaul, overload operational test shall be conducted by certified personnel of either the manufacturer or an authorized service provider.

4. Qualification levels and certification

4.1 All reports and checklists shall be completed and signed by the person who carries out the inspection and maintenance work and countersigned by the Company's representative or the ship's master.

4.2 Records of maintenance, thorough examination, operational testing, overhaul and repair shall be updated and filed on board the ship for the service life of the equipment.

4.3 When thorough examination, operational testing, overhaul and repair are completed, a statement confirming that the lifeboat arrangements remain fit for purpose shall be promptly issued by the manufacturer or authorized service provider that conducted work. A copy of valid documents of certification and authorization as appropriate shall be included with the statement.

5. Specific procedures for inspection, maintenance, thorough examination, operational testing, overhaul and repair

5.1 Annual thorough examination and operational test

5.1.1 All items listed in checklists for the weekly/monthly inspections required by SOLAS regulations III/20.6 and III/20.7 also form the first part of the annual thorough examination.

5.1.2 Records of inspections and routine on-board maintenance carried out by the ship's crew and the applicable certificates for the equipment shall be reviewed.

5.1.3 For lifeboats(including free-fall lifeboats), rescue boats and fast rescue

boats, the following items shall be thoroughly examined and checked for satisfactory condition and operation:

- .1 condition of the boat structure including fixed and loose equipment (including a visual examination of the external boundaries of the void spaces, as far as practicable);
- .2 engine and propulsion system;
- .3 sprinkler system, where fitted;
- .4 air supply system, where fitted;
- .5 manoeuvring system;
- .6 power supply system;
- .7 bailing system;
- .8 fender/skate arrangements; and
- .9 rescue boat righting system, where fitted

5.1.4 For release gear of lifeboats(including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, the following shall be thoroughly examined for satisfactory condition and operation after the annual operational test of the winch brake with the empty boat or equivalent load:

- .1 operation of devices for activation of release gear;
- .2 excessive free play(tolerances);
- .3 hydrostatic interlock system, where fitted;
- .4 cables for control and release; and
- .5 hook fastening.

5.1.5 The operational test of davit-launched lifeboats and rescue boats on-load release function shall be carried out as follows:

- .1 position the boat partially in the water such that the mass of the boat is substantially supported by the falls and the hydrostatic interlock system, where fitted, is not triggered;
- .2 operate the on-load release gear;
- .3 reset the on-load release; and
- .4 examine the release gear and hook fastening to ensure that the hook completely reset and no damage has occurred.

5.1.6 The operational test of davit-launched lifeboats and rescue boats off-load release function shall be carried out as follows:

- .1 position the boat so that it is fully waterborne;
- .2 operate the off-load release gear;
- .3 reset the off-load release gear; and
- .4 recover the boat to the stowed position and prepare for operational readiness.

5.1.7 The operational test of the free-fall lifeboat release function shall be carried out as follows:

- .1 engage the arrangements for the test without launching the lifeboat, required by paragraph 4.7.6.4 of the LSA Code, as specified in the manufacturer's operating instructions;
- .2 if required to be on board, ensure that the operator is properly seated and secured in the seat location from which the release mechanism is to be operated;
- .3 operate the release mechanism to release the lifeboat;
- .4 reset the lifeboat in the stowed configuration;
- .5 repeat the procedures referred to in .2 to .4 above, using the back-up release mechanism, if applicable;
- .6 remove the arrangements for the test without launching the lifeboat, required by paragraph 4.7.6.4 of the LSA Code; and
- .7 verify that the lifeboat is in the ready to launch stowed configuration.

5.1.8 The operational test of the davit-launched liferaft automatic release function shall be carried out as follows:

- .1 manually release the hook with a load of 150kg on the hook;
- .2 automatically release the hook with a dummy weight of 200 kg on the hook when it is lowered to the ground;
- .3 examine the release hook and hook fastening to ensure that the hook is completely reset and no damage has occurred.

5.1.9 For launching appliances for lifeboats(including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, the following items shall be examined for satisfactory condition and operation:

- .1 davit or other launching structures, in particular with regard to corrosion, misalignments, deformation and excessive free play;
- .2 wires and sheaves, possible damage such as kinks and corrosion;
- .3 lubrication of wires, sheaves and moving parts;
- .4 if applicable:
 - .1 functioning of limit switches;
 - .2 stored power system;
 - .3 hydraulic systems;
- .5 for winches:
 - .1 inspecting the braking system in accordance with winch manual;
 - .2 replacing brake pads, when necessary;
 - .3 winch foundation;
 - .4 if applicable, remote control system and power supply system.

5.1.10 For winches of the launching appliances for lifeboats(including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, annual operational testing shall be done by lowering the empty craft or boat or equivalent load. When the craft has reached its maximum lowering speed and before the craft

enters the water, the brake shall be abruptly applied. Following these tests, the stressed structural parts shall be reinspected where the structure permits the reinspection.

5.2 Five-year thorough examination, overhaul and overload operational tests

5.2.1 The five-year operational test of the winches of the launching appliances shall be carried out with a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment. When the proof load has reached its maximum lowering speed, the brake shall be abruptly applied.

5.2.2 Following these tests, the stressed structural parts shall be reinspected where the structure permits the reinspection.

5.2.3 The operational tests and overhaul at five-year intervals of release gear for lifeboats(including free-fall lifeboats), rescue boats, fast rescue boats and liferafts shall include:

- .1 dismantling of hook release units;
- .2 examinations with regard to tolerances and design requirements;
- .3 adjustment of release gear system after assembly;
- .4 operational tests as per paragraphs 5.1.5, 5.1.6, 5.1.7 or 5.1.8 above, as applicable, but with a load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment;
- .5 examinations of vital parts with regard to defects and cracks.

5.2.4 Any other overhaul if required shall be carried out in accordance with section 5.2.3.

6. Requirements for authorization of service providers

6.1 Authorization shall include, as a minimum, demonstration of:

6.1.1 employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or a manufacturer's established certification programme. In either case, the certification programme shall comply with section 7 for each make and type of equipment for which service is to be provided;

6.1.2 availability of sufficient tools, and in particular any specialized tools specified in the manufacturer's instructions, including portable tools as needed for work to be carried out on board ship;

6.1.3 access to appropriate parts and accessories as specified for maintenance and repair;

6.1.4 availability of the manufacturer's instructions for repair work involving disassembly or adjustment of on-load release mechanisms and davit winches;

6.1.5 a documented and certified quality system, which covers at least the following:

- .1 code of conduct for personnel involved in the relevant activity;
- .2 maintenance and calibration of measuring tools and gauges;
- .3 training programmes for personnel;
- .4 supervision and verification to ensure compliance with operational procedures;
- .5 recording and reporting of information;
- .6 quality management of subsidiaries and agents;
- .7 job preparation;
- .8 periodic review of work process procedures, complaints, corrective actions and issuance, maintenance and control of documents.

6.2 Administrations shall ensure that information regarding authorized service providers is made available.

6.3 In cases where a manufacturer is no longer in business or no longer provides technical support, Administrations may authorize service providers for the equipment on the basis of prior authorization for the equipment and/or long-term experience and demonstrated expertise as an authorized service provider.

6.4 Issuance and maintenance of authorization document:

6.4.1 upon successful initial audit of a service provider, an authorization document shall be issued by the Administration defining the scope of services provided (e.g. makes and types of equipment). The expiry date shall be clearly written on the document;

6.4.2 the Administration shall ensure that work continues, e.g. by periodic audit, to be carried out in accordance with these requirements, and shall withdraw the authorization of service providers who are not in compliance;

6.4.3 the Administration may accept or recognize service providers authorized by other Administrations or by their Recognized Organizations.

7. Requirements for certification of personnel

7.1 Personnel for the work shall be certified by the manufacturer or authorized service provider for each make and type of the equipment to be worked on in accordance with the provisions in this section.

7.2 Education and training

7.2.1 Initial certification shall be issued only to personnel having completed education, training and competence assessment. Education shall address, as a minimum:

- .1 relevant rules and regulations, including international conventions;
- .2 design and construction of lifeboats(including free-fall lifeboats), rescue boats and fast rescue boats, including on-load release gear and launching appliances;
- .3 causes of lifeboat and rescue boat accidents;
- .4 education and practical training in the procedures specified in section 5 for which certification is sought;
- .5 detailed procedures for thorough examination, operational testing, repair and overhaul of lifeboat(including free-fall lifeboats), rescue boats and fast rescue boats, launching appliances and on-load release gear, as applicable;
- .6 procedures for issuing a report of service and statement of fitness for purpose based on section 4.3;
- .7 work, health and safety issues while conducting activities on board.

7.2.2 Training 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 a certified person.

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

7.3 Validity of certificates and renewal

7.3.1 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 in section 3.2 and 3.3 are covered by the certification). The expiry 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.

7.3.2 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.

8. Additional information

8.1 IACS has revised IACS UR Z 17, procedural requirements for service providers, to Rev.14 in order to implement Res.MSC.402(96) and applies to approval of service providers from 1.Jan.2020.

8.2 Unless otherwise instructed from ship's flag administration, approval of service providers certified by KR before 1.Jan.2020 will be valid until their expiry date even after 1.Jan.2020. However, the maintenance, thorough examination, operational testing, overhaul, repair that take place after the date of entry into force shall be complied with Res.MSC.402(96) taking into account that implementation of Convention is 1.Jan.2020.

9. Action to be taken by ship's owners/operators, service providers, class surveyors

9.1 Ship's owners/operators : When arranging service provider, ship's owners/operators are required to confirm whether the service provider is certified for the make and type of the equipment onboard. If approved service provider that does not have suitable list of make/type, contact ship's flag administration to inquire whether it is acceptable or not. Further, the confirmation shall be made that specific procedure, reports and records provided by service provider are complied with Res.MSC.402(96).

9.2 Service providers : If a service provider does not have proper certification for each make and type taking into account that training and certification for each make and type to carry out maintenance is required, contact ship's flag administration to inquire whether it is acceptable or not. Further, the confirmation shall be made that specific procedure, reports and records are complied with Res.MSC.402(96).

9.3 Class surveyors : Please ensure that Res.MSC.402(96) is properly implemented when carrying out maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear on or after 1.Jan.2020.

10. Information received from flag administration

Flag	Approval of service provider	Instructions or Circulars
Hong Kong	HKMD accept service providers approved by maritime authority or authorized RO	service providers are not the certification holders of ISO 9000 series, they should be certification holders of quality system of other national standards.
ST. Vincent and the Grenadines	Administration accepts service providers authorized, checked or inspected by RO or other SOLAS contracting governments	Circular N° SOL 012-Rev.5
Marshall Islands	Authorized service provider listings are maintained by the Administrator's ROs who have been delegated the authority to ensure that the service providers meet the Res.MSC.402(96)	Technical Circular No.1 rev.6
ST. Kitts and Nevis	This administration has already delegated its authority with regard to application of SOLAS provisions to RO as stipulated in th RO agreement	N/A
Cook Islands	Maritime cook islands will accept only service providers authorised by other administrations or RO	Circular 212/2019
Germany	Ship safety division accept for ships flying the flag of germany service provider authorized by RO. The ship safety division will publish the authorized service provider on the homepage www.deutsche-flagge.de	N/A
Oman	Administration accept service provider approved by the organization with whom have RO agreement	N/A
South Africa	This authority will accept the service provider by IACS	To be issued
Barbados	We will accept service providers approved by RO	N/A
Canada	Transport Canada is aiming at delegating approval process to the Canadian RO	To be issued
Belize	Administration prefers to have these service provider duly approved by IACS and based on that approval to perform our evaluation as currently done	To be issued
Tuvalu	We will accept the service provider approved by IACS	N/A
Nauru	We will accept the service provider approved by IACS	N/A

Niue	NSR will accept the service provider approved by IACS	N/A
Cyprus	We accept the service provider approved by IACS, but no official decision has been made yet	To be issued
Honduras	We will accept the service provider approved by IACS	To be issued
Greece	Ro may also utilise any service suppliers, provided that such service suppliers are approved RO or another recognized organization	To be issued

- * Attachments : 1. Res.MSC.402(96)
2. Res.MSC.404(96)
3. Circular N° SOL 012-Rev.5 for ST.Vincent and the Grenadines
4. Technical Circular No.1 rev.6 for Marshall Islands
5. Circular 212/2019 for Cook Islands

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Distributions : Ship's owners/operators, Service providers, KR surveyors

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