

Corr.

RULES

FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS

Volume 1

Part I GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

Part II TECHNICAL DOCUMENTATION

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Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships have been approved in compliance with the established approval procedure and come into force on 1 July 2018.

The present edition of the Rules is based on the 2017 edition taking into account the amendments developed immediately before publication.

The Rules are published in three volumes containing the following parts.

Volume 1 — Part I "General Regulations for Technical Supervision"; Part II "Technical Documentation".

Volume 2 — Part III "Technical Supervision during Manufacture of Materials".

Volume 3 — Part IV "Technical Supervision during Manufacture of Products".

On the entry into force of these Rules, the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships (2017) become void.

In case of discrepancies between the Russian and English versions, the Russian version shall prevail.

As compared to the 2017 edition, the present edition of the Rules contains the following amendments.

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

1. Chapter 1.2: new abbreviation "COOT" has been introduced;
explanation of abbreviation "SECC" has been amended.
2. Section 2: para 2.7 has been amended.
3. Section 3: in para 3.3 the explanatory definitions of documents (COTO, COTH, COOT and SECC) have been introduced;
paras 3.4, 3.5 and 3.8 have been amended.
4. Section 5: paras 5.2 and 5.6 have been amended.
5. Section 8: in Table 8.1.1 codes 22005011, 22005013, 22006002MK (the English version only), 22021000MK have been amended regarding kinds of activity;
paras 8.3.1.1.8, 8.3.1.1.10.3, 8.3.1.2.6, 8.3.6.3, 8.3.13, 8.3.13.1, 8.3.13.2.2, 8.3.13.4.2.3, 8.3.15.4.3, 8.3.17.4.6 have been amended;
para 8.3.4.2 has been deleted, paras 8.3.4.3 — 8.3.4.6.2 and references thereto have been renumbered as paras 8.3.4.2 — 8.3.4.6.1 accordingly;
para 8.3.7.5 has been deleted.
6. Section 9: in Table 9.1.1 new code 21004100 has been introduced regarding tests and measurements;
paras 9.3.1, 9.3.9.1, 9.3.9.2 have been amended;
new para 9.3.1.1 has been introduced, paras 9.3.1.1 — 9.3.1.3 have been renumbered as paras 9.3.1.2 — 9.3.1.4 accordingly;
new paras 9.3.9.3, 9.3.12, 9.3.12.1 — 9.3.12.4 have been introduced.
7. Section 11: in Table 11.1.1 code 22013000 has been deleted;
code 22013000 has been introduced regarding new kind of activity;
para 11.1.2.1 has been deleted;
paras 11.3.1 — 11.3.1.1 have been deleted, paras 11.3.2 — 11.3.4 and references thereto have been renumbered as paras 11.3.1 — 11.3.3 accordingly.
8. Section 13 has been completely amended in accordance with issuance of the Guidelines on Technical Supervision of Ships under Construction.
9. Appendix 1: para 5 and the Nomenclature of Items of the Register Technical Supervision have been amended.
10. Appendices 3, 4 and 5 have been deleted, their requirements have been transferred to the Guidelines on Technical Supervision of Ships under Construction.
11. Editorial amendments have been made.

PART II. TECHNICAL DOCUMENTATION

1. Section 3: paras 3.3, 3.12 have been amended.
2. Section 4: paras 4.1, 4.2, 4.3, 4.4, 4.5 have been amended.
3. Section 7: in para 7.1 the reference has been specified.
4. Section 8: in para 8.8 the references have been specified.
5. Section 9: para 9.1 has been amended.
6. Section 12 has been completely amended considering IACS UR L5 (Rev.3 June 2017).
7. Appendix: new para 13.1.2 has been introduced considering Regulation 12A of Annex I to MARPOL 73/78, existing paras 13.1.2 — 13.1.7 have been renumbered as paras 13.1.3 — 13.1.8 accordingly;
para 13.2.3 has been amended considering Regulation 19 of Annex I to MARPOL 73/78;
new para 13.2.4 has been introduced considering Regulation 22 of Annex I to MARPOL 73/78, existing paras 13.2.4 — 13.2.11 have been renumbered as paras 13.2.5 — 13.2.12 accordingly.
8. Editorial amendments have been made.

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PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

1 TERMS, DEFINITIONS, ABBREVIATIONS

Definitions and explanations relating to general terminology of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships¹ are given in Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships. For the purpose of these Rules the following terms and definitions are applied.

1.1 DEFINITIONS AND EXPLANATIONS

1.1.1 Definitions.

Administration is the Administration in accordance with the definitions in international conventions.

RS Head Office is the management of the Register and departments of the Head Office.

Prototype ship is a single-built ship or the first ship of the series, which is built under the Register technical supervision.

In case of ships built under the same design at different shipyards, the first ship built at each shipyard is considered to be the prototype ship.

Prototype (first lot) is a material or product (lot) used by the Register to check and confirm by means of tests and surveys that it complies with the RS requirements and may be used for the intended purpose if produced at the firm (manufacturer) concerned.

Keel laying date or the date on which the ship was at a similar stage of construction — for the purposes of application of the RS Rules as well as IMO Conventions and Codes (quality standards, technical standards, resolutions and circular letters) is the date (day, month, year) on which the installation at the building berth of a base section or block (island) in section or block (island) construction respectively, or such a stage of construction at which construction identifiable with a specific ship begins and assembly of that ship has commenced comprising at least 50 t or 1 % of the estimated mass of all structural materials, whichever is less.

For fibre-reinforced plastic (FRP) ships the keel laying date shall be interpreted as the date that the first structural reinforcement of the complete thickness of the approved hull laminate schedule is laid either in or on the mould.

Date of delivery of the ship is the completion date (day, month and year) of the survey on which the certificate is based (i.e. the initial survey

before the ship is put into service and certificate issued for the first time), provided SOLAS and MARPOL mandatory requirements are applied to new ships, and as entered on the relevant statutory certificates.

Date of build of the ship is the date, month and year at which the new construction survey process of the Register is actually completed, and the Classification Certificate is issued to the ship.

Where there is substantial delay between completion of construction survey process and the ship commencing active service, the date of commissioning may be also specified.

Date of build of the ship for the purpose of application of the requirements of international conventions is the day, month and year in accordance with the definitions in international conventions.

Contract on technical supervision is an agreement in the written form defining rights and responsibilities of the Register and organization (firm) during technical supervision of the items of supervision.

Additional requirements are the requirements caused by the item features or its operational conditions, which are not provided for by the rules imposed by RS in writing to ensure the safety of items of technical supervision.

Under safety in this particular case is meant safe navigation of ships, fixed offshore platforms, safety of life at sea, safe carriage of goods, environmental protection.

Manufacturer is an organization (firm) responsible for the material or product compliance with the applicable RS requirements.

Surveyor is an RS official authorized to perform certain types of the RS technical supervision.

Test is a technical operation on determination of one or more characteristics or operating parameters of an item of supervision in compliance with the established or defined procedure.

Competent organization is an organization recognized as having adequate knowledge and experience in the particular area.

Competent person is a person considered as adequately qualified to do a job in the particular area, using appropriate knowledge and experience.

Normative documents are standards, regulations, technical requirements, norms, calculation procedures, instructions, guidelines and other documents, which provide design, technical or production requirements for design, construction (manufacture), installation, testing and service of the items of the RS technical supervision.

¹ Hereinafter referred as "the Rules".

Items of technical supervision (items of supervision) are ships and other floating facilities, fixed offshore platforms, products, materials, works, services and processes within the RS terms of reference in compliance with the current legislation and the Charter.

Approval of a material, product or process is confirmation by branding and/or the RS document of a material, product or process compliance with the RS requirements based on the positive results of their survey.

Approval (agreement) of technical documentation is confirmation by the RS stamp and/or document of compliance of technical documentation with the RS requirements based on the positive results of its review.

Type approval of a material, product or process is an approval of a material, product, process considered by RS as a representative of the particular production without attribution to the particular item of technical supervision.

Pilot specimen (pilot lot) is a material or a product (lot) produced in accordance with newly developed technical documentation to determine a possibility of its use for the intended purpose in compliance with the RS requirements, based on review of technical documentation and checking in the course of tests or research of structural solutions as well as combination of properties and parameters.

Organization (firm) is a legal entity of any legal form, form of ownership and affiliation, as well as a physical person involved in business not being a legal person involved in activity related to the items of supervision.

Survey is an integral part of technical supervision, including:

- checking availability of approved technical documentation on the items of technical supervision;
- checking availability of the RS documents, recognized and competent organizations or persons on the items of technical supervision;
- examinations, including (where necessary) opening-up and dismantling;
- participation in measurements and tests;
- assessment of the measurement and test results;
- drawing-up, endorsement, renewal and extension of the RS documents;
- branding and sealing (where necessary) of the item of technical supervision.

Conversion of a ship of substantial nature (major conversion) is conversion resulting in substantial changes of the ship principal characteristics or structural parameters (such as weight characteristics, gross tonnage, overall dimensions, freeboard; power output of the main propulsion installation, ice strengthening, etc.), which can cause change of the ship type, principal dimensions, passenger capacity, cargo carrying capacity, extension of the ship service

life or change in the class notation. Nature of conversion (major/minor), unless expressly provided otherwise by international conventions, shall be determined by the RS Head Office in each particular case.

RS Branch Office is a branch office, a district office of the branch office, a representative office, an affiliated company. Regulations for the RS Branch Office determine its legal status, tasks and functions within the certain processes, duties, rights and responsibility of the Director as well as the area of the RS Branch Office activity.

RS rules are a code of normative technical requirements for items of technical supervision.

Recognition of a manufacturer is confirmation by the RS document of capability of a manufacturer to manufacture materials and products in compliance with the RS requirements.

Recognition of a testing laboratory is confirmation by the RS document of technical competence of a testing laboratory in conducting tests in compliance with the RS requirements.

Recognition of an organization (firm) is confirmation by the RS document of capability of an organization (firm) to render services (carry out work) in compliance with the RS requirements.

Plan approval documentation (technical detailed design) is a set of design documents that give full understanding of the ship design in the scope sufficient for determination of its conformity with the requirements of the Register and (if applicable) of international conventions, provision of technical supervision during its construction and class assignment.

Detailed (design) documentation is a set of design documents intended for construction (manufacture), checking, acceptance, delivery, service and repair of the item of supervision.

Single approval of a material, product, process is approval of a material, product, process to be used or installed on a particular item of supervision under construction or in service.

Review of technical documentation is determination of an extent of documentation compliance with the RS requirements.

Recommendations of the International Maritime Organization (IMO) are provisions of resolutions, codes and other normative documents adopted by the governments, which have authorized the Register to supervise the fulfillment of those provisions.

Certificate of conformity (Certificate) is a RS document certifying the compliance of an item of supervision with the RS requirements.

Agreement on Survey is an agreement in a written form establishing interrelations between the Register and a firm (manufacturer), based on which technical personnel of the firm (manufacturer) is entrusted with performance of check tests or part thereof

and filling-in of certificates of conformity, which are submitted to the Register for drawing-up (affirmation) together with the test reports.

Special consideration is determination of an extent of conformity of an item of technical supervision with the additional requirements.

Technical documentation is construction and production documentation as well as the normative documents on items of technical supervision, which contain the data necessary for checking the fulfillment of the RS requirements.

Technical supervision is checking of conformity of items of supervision with the RS requirements during:

review and approval (agreement) of technical documentation;

survey of items of supervision at manufacture, construction, service stages, including conversion, modernization and repair.

Technical design is a set of design documents that give understanding of the item design and engineering solutions.

Requirements of conventions are requirements of international conventions ratified by the governments, which have authorized the Register to supervise the fulfillment of those requirements.

RS requirements are requirements of the RS rules, international conventions and agreements, recommendations of the International Maritime Organization (IMO), governments having granted RS the relevant authorization, and additional requirements.

Type production process is a production process intended for specific field and conditions of application with no reference to a particular ship or item of supervision.

Conceptual design is a set of design documents that give general understanding of the item design, operating principles, principal engineering solutions and provide data determining the item fitness for its purpose.

1.1.2 Explanations.

Measurement of distances — unless explicitly stipulated otherwise in the text of the regulations in SOLAS, Load Line and MARPOL Conventions and any of their mandatory codes and the RS rules and regulations, distances such as tank length, height, width, ship (or subdivision or waterline) length, etc. shall be measured by using moulded dimensions.

1.2 ABBREVIATIONS

Register, RS — Russian Maritime Register of Shipping.

RHO — RS Head Office.

MARPOL 73/78 — International Convention for Prevention of Pollution from Ships as modified by the

Protocol 1978 of relating thereto, having regard to the amendments adopted by the Marine Environmental Protection Committee of the International Maritime Organization (IMO).

C — Certificate filled-in and signed by the Register (form 6.5.30).

CDC — Welder Approval Test Certificate (form 7.1.30).

C3 — Certificate (form 6.5.31) filled-in and signed by an official of a firm (manufacturer) and drawn up (affirmed) by the Register on the basis of the review of the product/equipment test results performed by the manufacturer and only upon signing of C3 on behalf of the manufacturer.

CO — Agreement on Survey (form 430.1.7).

COCM — Certificate of Approval for Welding Consumables (form 6.5.33).

COTI — certificates of type test (forms 2.4.13 and 2.4.19).

COTO — certificates of type approval (forms 2.4.11.1, 2.4.12, 2.4.12.1, 2.4.13.1, 2.4.13.2, 2.4.16.1, 2.4.17.1, 2.4.17.2 and 2.5.5).

COOT — Type Approval Certificate of Ballast Water Management System (forms 2.5.5, 2.5.5-1).

COTPIC — Welding Procedure Approval Test Certificate (form 7.1.33).

CPI — Recognition Certificate (form 7.1.4.2).

CPII — Recognition Certificate for Manufacturer (form 7.1.4.1).

CPII — Recognition Certificate of Testing Laboratory (form 7.1.4.3).

CPIII — Certificate of Vocational Training (form 7.1.34).

CCPI — Certificate of Firm Conformity (form 7.1.27).

CTO — Type Approval Certificate (form 6.8.3).

CTTIK — Type Approval Certificate for Fire-Proof Division (form 6.8.4).

CTOPI — Type Approval Certificate for Computer Program (form 6.8.5).

EIAPP Certificate — Engine International Air Pollution Prevention Certificate (form 2.4.40).

Report 6.3.18 — Report on Survey of Prototype/Serial/Pilot Specimen of Product/Material/Type Structure (form 6.3.18).

Report 6.3.19 — Report on Survey of Firm (form 6.3.19).

RS Nomenclature — Nomenclature of Items of the Register Technical Supervision.

SECC — SO_x Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning System (form 2.4.42).

W — document(s) issued/signed by the manufacturer and verifying the material or product compliance with the RS requirements.

2 GENERAL

2.1 The RS activity on technical supervision during manufacture of materials and products, technical supervision of services, processes and construction, conversion, modernization and repair of ships is based on the Regulations for Classification of Ships and Offshore Fixed Platforms.

2.2 All technical supervision services are rendered by the Register based on requests and agreements with organizations, firms and individuals involved in design, manufacture of materials and products, production processes, construction, conversion, modernization and repair of ships, and rendering of services (refer to Section 4).

2.3 Items of the RS technical supervision and technical requirements thereto are defined in the Rules and are listed in the RS Nomenclature (refer to Appendix 1).

2.4 Items not regulated by the RS rules of a non-conventional design or intended for special operating conditions, as well as materials and production processes where special requirements are placed thereupon are specified by the Register as items of technical supervision in each particular case, and technical requirements for such items are specified as additional requirements.

Later, based on the results of technical supervision during manufacture and in service, the items of technical supervision may be introduced in the relevant parts of the RS rules and the RS Nomenclature.

2.5 New type materials, products and production processes, which are presented to RS for the first time and which are the items of technical supervision shall be approved by RS for application for the intended purpose.

2.6 Type production processes are subject to the RS review in the following cases:

.1 where the requirements for the particular production process are provided by the RS rules;

.2 where the tests required by the RS rules are provided for in the type production process.

2.7 A possibility of deviations from the RS requirements, where application of those requirements, methods and scope of supervision prescribed by RS is impracticable or unreasonable, is decided by RHO upon a request of the RS Branch Office responsible for carrying out technical supervision.

2.8 Items subject to the Register technical supervision in accordance with the RS Nomenclature may be used for their intended purpose only in case documents of the Register or other classification societies issued on its behalf are available.

2.9 Where defects are found or doubts arise in a possibility of using items of technical supervision for the intended purpose, necessary check surveys shall be

conducted. If the results of check surveys are unsatisfactory, the items of technical supervision are not allowed to be used whether or not the documents required are available.

2.10 Construction of ships classed with the Register and manufacture of materials and products for the ships classed with the Register shall be in conformity with the technical documentation approved by the Register.

2.11 Where conformity of a material, product, ship with the requirements of conventions and IMO recommendations is required, the technical documentation shall be prepared with due regard to such requirements and recommendations and submitted to the Register for approval. After carrying out necessary surveys in compliance with these requirements and recommendations the Register issues documents prescribed by the international conventions or the Register certificates of the established form with indication of the conformity with those requirements and recommendations.

2.12 The procedure of review and approval by the Register of technical documentation on items of technical supervision, scope of surveys in the course of technical supervision at the firm (manufacturer) and production operations to be controlled as well as documents to be issued during supervision, and branding procedure are governed by the relevant sections and parts of these Rules.

2.13 Technical documentation on construction of ships and manufacture of materials and products is reviewed and approved in compliance with Part II "Technical Documentation".

2.14 The scope of the Register technical supervision in the course of construction of a particular ship and manufacture of a particular product is stated in the List of Items of Technical Supervision (refer to Sections 12 and 13), which is elaborated as a working document of technical supervision at the particular firm (manufacturer).

2.15 Based on the agreement on mutual substitution, the Register may authorize another classification society (ACS) or competent body to perform technical supervision (totally or partially) of the construction of the ship classed with the Register and manufacture of products for the ships classed with the Register or be authorized by ACS to carry out technical supervision during construction of the ship or manufacture of materials and products.

In such cases, the scope and procedure of technical supervision and documents to be issued shall be specified in the appropriate agreements or authorizations.

2.16 A possibility of recognition of documents for materials and products manufactured under technical supervision of ACS without the Register authorization is

See Circular 1143c

See Circular 1143c

decided by the Register in each particular case during survey of these materials and products to an extent sufficient to confirm their compliance with the RS requirements, conventions, IMO recommendations, standards and normative documents.

2.17 When carrying out technical supervision, the Register reserves the right to check the compliance of the design, technology and production standards, which are not required but affect the fulfillment of the RS rules.

2.18 Standards used in elaboration of technical documentation, in construction of ships and manufacture of materials and products referred to the items of the RS technical supervision, of production processes, calculation and design standards, testing, checking and quality control procedures shall be agreed upon with the Register. The Register checks the compliance with the standards agreed upon therewith only as regards the technical requirements, which are within its terms of reference.

2.19 Technical supervision during manufacture of materials and products is performed in relation of those properties only, which are regulated by the RS rules, as well as parameters and characteristics indicated in the approved technical documentation. During technical supervision the Register does not determine a grade and category of product quality or check the fulfillment of safety engineering, sanitary and labor organization requirements, or other production aspects, which are beyond the Register terms of reference.

2.20 In its activity the Register does not substitute the prescribed activity of the state supervision authorities or officials of shipowner, shipyard or firm.

2.21 The Register may impose in the course of technical supervision the necessary requirements for the items and production processes not supervised by the

Register if it appears that application thereof has resulted or is likely to result in violation of the RS rules.

2.22 The Register carries out technical supervision during construction of ships at the shipyard and manufacture of materials and products at the firm (manufacturer) by means of surveys. Thus all the questions shall be settled within the frames regulated by the RS requirements.

2.23 The Register can entrust technical personnel at the firm (manufacturer) with the check tests or part thereof aiming to check the compliance of materials or products with the RS requirements (refer to Section 4).

2.24 In case of the differences associated with requirements and decisions of the surveyor carrying out technical supervision, a designer, shipowner or firm may apply directly to the RS Branch Office to resolve the problem. In case of the differences with the RS Branch Office, an appeal containing justifications together with a copy of the RS Branch Office decision may be sent to RHO.

2.25 The Register performs its supervision activities on condition that manufacturers and individuals meet their commitments on manufacturing adequate products. In case of any deficiencies of the item of technical supervision, unsteady production process, low technological discipline and inadequate efficiency of quality system at the firm, the Register does not admit any claims for delays in production, caused by an increase in the scope of surveys of the products because of the above reasons.

2.26 For the services rendered the Register charges fees in accordance with the procedure established in the General Conditions for Rendering Services by Russian Maritime Register of Shipping.

See Circular 1143c

3 SERVICES RENDERED IN TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS. DOCUMENTS ISSUED

3.1 When carrying out technical supervision during manufacture of materials and products, construction, conversion, modernization and repair of ships, the Register carries out:

type approval of materials or products with issue of the Type Approval Certificate (CTO);

recognition of the manufacturer with issue of the Recognition Certificate for Manufacturer (CIII);

recognition of the testing laboratory conducting tests and measurements in accordance with Table 9.1.1 with issue of the Recognition Certificate of Testing Laboratory (CIIJ);

recognition of service suppliers performing the activity in accordance with Table 8.1.1 with issue of the Recognition Certificate (CII);

audit of the firms performing the activity in accordance with Table 11.1.1 with issue of the Certificate of Firm Conformity (CCII).

3.2 The Register keeps records of the above services and can give relevant information thereon.

3.3 Based on the results of technical supervision, the Register issues the following documents of the established form that certify the conformity of the item of technical supervision with the RS requirements, as well as its manufacture (construction) under the Register technical supervision:

the certificates (C, C3) are documents certifying the conformity of the particular materials, products or groups of products with the requirements of the RS rules and normative documents;

the Type Approval Certificate (CTO) is a document certifying the conformity of types of materials, products or groups of products, type production processes with the requirements of the RS rules (refer to Section 6);

certificates of type approval (COTO), certificates of type test (COTI) are documents certifying the conformity of the type of ship's equipment and arrangements for the prevention of environment pollution with the requirements of MARPOL 73/78 and IMO resolutions;

the Type Approval Certificate of Ballast Water Management System (COOT) is a document certifying the conformity of the type of ballast water management system with the requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, as well as with the Guidelines for Approval of Ballast Water Management Systems (G8);

the Recognition Certificate for Manufacturer (CIII) is a document certifying the recognition by the Register of the firm as manufacturer of materials and products for ships subject to the Register technical supervision (refer to Section 10);

the Recognition Certificate of Testing Laboratory (CIIJ) is a document certifying the competence of the laboratory in carrying out certain types of tests of the materials and products (refer to Section 9);

the Recognition Certificate (CII) is a document certifying the recognition of the service supplier rendering services (carrying out works) in compliance with the RS requirements (refer to Section 8);

the Certificate of Firm Conformity (CCII) is a document certifying the conformity of the firm with the RS requirements in rendering services (carrying out works) indicated in the request (refer to Section 11);

the SO_x Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning System (SECC) is a document certifying the conformity with the requirements of Annex VI to MARPOL 73/78 for the exhaust gas cleaning systems.

3.4 Validity period of the Recognition Certificate for Manufacturer (CIII), Recognition Certificate of Testing Laboratory (CIIJ), Certificate of Firm Conformity (CCII) shall not exceed five years. Certificates are subject to endorsement not less than once a year. Endorsement shall be done within the period limited by thirty (30) days before and thirty (30) days after the specified date of endorsement of the certificate.

The Recognition Certificate (CII) shall be issued for three (3) years and is not subject to endorsement.

Upon expiry of the validity period the certificates are renewed on request of the firm.

RS reserves the right to carry out occasional surveys of a firm having a valid RS certificate in cases when:

.1 an item of technical supervision has been found non-compliant with the RS requirements, including third party information;

.2 the firm has not informed RS of changes to an item of technical supervision stated in the certificate.

3.5 Validity of the Recognition Certificate for Manufacturer (CIII), Recognition Certificate of Testing Laboratory (CIIJ), Recognition Certificate (CII) and Certificate of Firm Conformity (CCII) may be suspended for a period agreed upon with the firm but not more than ninety (90) days provided:

.1 major nonconformities of the firm activity have been found;

.2 the firm has not applied with the request to endorse the certificate within the established period;

.3 the firm has not informed the Register of the changes in the activity specified in the certificate.

3.6 The Recognition Certificate for Manufacturer (CIII), Recognition Certificate of Testing Laboratory (CIIJ),

See Circular 1143c

See Circular 1143c

See
Circular
1143c

See
Circular
1143c

See Circular
1143c

Recognition Certificate (CII) and Certificate of Firm Conformity (CCII) become invalid:

- .1 upon expiry of the certificate period of validity;
- .2 in case causes of the certificate suspension have not been eliminated within the agreed period;
- .3 in case the certificate has not been endorsed within the specified period;
- .4 if the contract or agreement on technical supervision has become invalid in cases provided for in 4.6;
- .5 in case of the firm bankruptcy or liquidation;
- .6 where the firm failed to inform the Register in writing of any alterations to its quality system related to the RS area of recognition;
- .7 where the firm submits information known to be false.

3.7 RS informs the firm in the written form of suspension and loss of validity of the certificate.

3.8 Compliance of the equipment with the requirements of MARPOL 73/78 as amended is certified by the Certificates of Type Approval (COTO), Certificates of Type Tests (COTI), Type Approval Certificate of Ballast Water Management System (COOT) and SO_x Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning System (SECC). Validity period of COTO, COTI and SECC is not specified, except for COOT (form 2.5.5) issued for 5 years.

3.9 Compliance of the marine engine with the requirements of Annex VI to MARPOL 73/78 is confirmed by the EIAPP Certificate. The EIAPP Certificate is issued to:

- .1 the basic engine of the engine family or group;
- .2 the member engine of the engine family or group (refer to 5.2).

3.10 Compliance of welding consumables and welding procedures with the requirements of the Rules for the Classification and Construction of Sea-Going Ships is certified by the Certificate of Approval for

Welding Consumables (COCM) and Welding Procedure Approval Test Certificate (COTIIC).

3.11 In case of technical supervision on behalf of the Register, certificates and other documents of the organization carrying out of technical supervision on behalf of the Register in accordance with Section 14 are recognized.

3.12 The documents confirming the performance of the surveys of materials and products, firms and testing laboratories and being the basis for issuance of the Type Approval Certificate (CTO), Certificate of Approval for Welding Consumables (COCM), Recognition Certificate (CII), Recognition Certificate for Manufacturer (CIII), Recognition Certificate of Testing Laboratory (CILI) and Certificate of Firm Conformity (CCII) are the Report 6.3.18 and the Report 6.3.19 (refer to 1.2) drawn up by the Register upon completion of surveys.

The reports are issued to the firms in the following cases:

when upon the results of surveys the requirements are established, which shall be met by the firm;

when the report is the only Register document confirming rendering of the Register technical supervision services.

In other cases, it is not required to issue the above reports to the firms.

3.13 Branding of items of technical supervision in cases specified in the RS Nomenclature is made in accordance with the Instructions on Branding of Items of the Register Technical Supervision (refer to Appendix 2).

3.14 In case of changing any detail of the valid certificate issued in compliance with the provisions of the Rules, except for the certificates (C, C3), the certificate becomes invalid. In such case, a new certificate may be issued based on the results of technical supervision, the scope of which is determined by the Register in each particular case.

4 REQUESTS, CONTRACTS AND AGREEMENTS ON TECHNICAL SUPERVISION

4.1 Where supervision of the Register is specified in the ordered (contracted) documentation on design, construction, conversion, modernization and repair of ships, manufacture of materials and products for shipbuilding and ship repairing, as well as rendering services referred to in 3.1, a firm shall apply to the Register with a written request to carry out technical supervision and to guarantee payment of the Register services, reimbursement of the Register expenses, as well as with the confirmation of familiarization and agreement with the General Conditions for Rendering Services by Russian Maritime Register of Shipping. The General Conditions for Rendering Services by Russian Maritime Register of Shipping are constituent and integral part of all the contracts concluded by the Register.

4.1.1 If the firm is not the manufacturer of the products, the firm shall, in addition to the provisions of 4.1, be authorized by the manufacturer (which shall be documented) to do the following:

.1 to submit technical documentation for the product for RS review and approval or to use the technical documentation approved by RS;

.2 to arrange for survey of the product within the necessary scope;

.3 to arrange for testing of the product within the necessary scope or to use reports of the tests earlier conducted by the manufacturer;

.4 to supply the product, and to install and mount it if necessary.

4.1.2 Deviations from the provisions of 4.1.1 shall be regulated with 2.7.

4.2 The request shall provide the information to an extent sufficient for review and execution thereof. In reviewing the request for technical supervision during manufacture of the material or product, a kind of approval (single or type approval) shall be identified.

The request for type approval of ICE shall additionally provide information submitted according to the form given in Appendix 3 to Section 5 of Part IV "Technical Supervision during Manufacture of Products". The specified form in electronic format to be filled-in is posted on the RS website.

4.3 Upon reviewing the request depending on the particular conditions of the future technical supervision (scope and item of supervision, duration, etc.), the Register, being guided by the regulations in force, decides on the necessity to conclude a contract on technical supervision or carries out technical supervision based on the request without concluding the contract.

4.4 The contract on technical supervision of the Register at the manufacturer specifies the items of technical supervision and regulates mutual relations,

rights and responsibilities of the parties in the course of the Register technical supervision during construction of ships and manufacture of materials and products, as well as when rendering services specified in 3.1.

The contract specifies cost of technical supervision, procedure and terms of payment. Where technical supervision is carried out based on the request, without concluding the contract, services are paid and expenses reimbursed according to the invoices made out by the Register.

For concluding the contract for the Register technical supervision, use is made of the established forms or the contract may be drawn up in a free form.

4.5 The Register may entrust the firm (manufacturer) technical personnel with performance of the check tests or part thereof, to which effect the Agreement on Survey (CO) is signed with the firm (manufacturer).

For signing the Agreement on Survey (CO) use is made of the established form or the Agreement on Survey (CO) may be signed in a free form with due regard to all major provisions of the prescribed format.

The Agreement on Survey (CO) is made based on survey of the firm (manufacturer) carried out to the extent and according to the procedure described in Sections 10 and 16, and type approval of the material or product (refer to Section 6).

Rights and responsibilities of the firm (manufacturer), responsibilities of the Register and terms of payment to the Register for technical supervision are stated in the Agreement on Survey (CO).

In order to provide the adherence to the RS requirements for products, to draw up covering documentation and to fulfill the terms and conditions of the Agreement on Survey (CO), an official competent in production and quality control of the items of technical supervision shall be appointed at the firm (manufacturer).

Based on the Agreement on Survey (CO) concluded, the items of technical supervision shall be delivered with the Certificate (C3) to be filled in and signed by the firm (manufacturer) official and drawn up (affirmed) by the Register on the basis of the review of the product/equipment test results performed by the manufacturer and only upon signing of C3 on behalf of the manufacturer (refer to 5.2) or with the Type Approval Certificate (CTO) copy and the firm (manufacturer) document which shall contain:

- name, type and serial number of the item;
- name and address of the manufacturer;
- address of the manufacturing location;
- name of technical documentation for the item and date of its approval by the Register;
- name of the document containing data on item surveys and tests performed by the firm (manufacturer);

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the Type Approval Certificate (CTO) number, date of issue and period of validity;

firm statement on item conformity to the approved type specified in the Type Approval Certificate (CTO);

signature of the firm (manufacturer) authorized person.

4.5.1 The Agreement on Survey (CO) comes into force from the date of signing and remains valid for at most 5 years subject to:

.1 for the items delivered with the Certificate (C3) — satisfactory results of survey of the item of technical supervision and the firm (manufacturer) in accordance with the requirements of Section 16, to be carried out not less than once a year (in well-grounded cases to be carried out not less than once every 2, 5 years, unless otherwise specified);

.2 for the items delivered with the Type Approval Certificate (CTO) copy — satisfactory results of survey of the item of technical supervision and the firm (manufacturer) in accordance with the requirements of Section 10, to be carried out not less than once a year (in well-grounded cases to be carried out not less than once every 2,5 year, unless otherwise specified);

.3 the validity of the approval of the type item of technical supervision as certified by the RS type approval

certificate, or validity of the Recognition Certificate for Manufacturer (CPII).

4.5.2 The validity of the Agreement on Survey (CO) is extended for the next period not exceeding 5 years subject to compliance with the requirements set out in 4.5.1.1 and 4.5.1.2.

4.6 The contract or agreement on technical supervision becomes invalid in case of inadequate fulfilment of the commitments under the contract or agreement, including payments for the RS services as well as in the following cases:

.1 upon expiry of type approval for material or product manufactured by the firm (manufacturer);

.2 subject to non-compliance of the firm (manufacturer) with the requirements of survey;

.3 if the Recognition Certificate (CII), Recognition Certificate of Testing Laboratory (CILT), Recognition Certificate for Manufacturer (CPII) and Certificate of Firm Conformity (CCII) become invalid in compliance with 3.6;

.4 upon expiry of validity of the contract or agreement;

.5 cancellation of the contract or agreement.

The Agreement on Survey (CO) may be cancelled if desired by the parties who signed it.

5 TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS

5.1 Materials and products used in construction of ships and floating facilities classed with the Register shall be supplied to the shipyard with the certificate of conformity or other documents confirming their compliance with the RS requirements, conventions or the IMO recommendations.

List of materials and products subject to mandatory technical supervision with indication of a type of the document issued thereon is given in the RS Nomenclature (refer to Appendix 1).

In separate cases, at the RS discretion, technical supervision may be performed of the materials and products not contained in the RS Nomenclature, which are newly developed or are the components of the products listed in the RS Nomenclature and which functionally provide the safety of the items of technical supervision (refer to 2.4).

5.2 For drawing up of results of the Register supervision during manufacture of the materials and products, use is made of three types of the certificates of conformity:

Certificate filled-in and signed by the Register (C). The Certificate shall be drawn up and signed with a digital signature;

Certificate filled-in and signed by a firm (manufacturer) official and drawn up (affirmed) by the Register (C3). Signing and drawing up of the Certificate are allowed to carry out by digital signature;

type approval certificate drawn up by a Surveyor and signed by the Directors/Heads of the RHO Locations or the RS Branch Offices (CTO, CTIHK).

The contents of the above certificates (C, C3, CTO) shall identify the material or product, its types, main parameters, as well as the manufacturer of materials and products.

Validity period of the certificates (C, C3) is not specified.

Validity period of the Type Approval Certificate (CTO) is up to 5 years (refer to 6.5).

The EIAPP Certificate (refer to 3.9) is filled-in and signed by the Register. Validity period of the EIAPP Certificate is not specified.

5.3 In order to obtain the certificate of conformity, the firm (manufacturer) shall apply to the Register with a request.

Technical documentation on the materials or products within the scope regulated by the RS rules shall be submitted together with the request.

5.4 Upon review of the technical documentation the Register sends a conclusion letter to the firm (manufacturer). Where deemed necessary, the firm (manufacturer) shall submit the testing programme to the Register to be agreed upon.

5.5 Where in column 5 of the RS Nomenclature "C" or "C3" is indicated, then upon satisfactory results of survey of the material or product the certificates (C, C3) or a certificate of a special form for the particular type of products (if any) shall be issued.

Branding shall be made where necessary (refer to Appendix 2).

5.6 Where in column 5 of the RS Nomenclature "CTO" is indicated, then the document to be issued may be a copy of the Type Approval Certificate (CTO). The appropriate record shall be made in section "Type of document issued for product" of the Type Approval Certificate (CTO). In such a case, the Agreement on Survey (CO) (refer to 4.5) shall be concluded with the firm/manufacturer prior to commencement of commencement of material/product deliveries with a copy of the Type Approval Certificate (CTO). In well-grounded cases, the certificates (C or C3) may be issued.

5.7 In case of a single approval, the material or product is surveyed to the extent of the prototype.

In case the Type Approval Certificate (CTO) for the materials and products in question is available, the examination and approval of technical documentation are not required, and the test results for the type specimen are taken into account.

Where a single approval is issued to single products, approval of technical documentation and survey results for the prototype cover only the material or product, for which the certificates of conformity have been issued.

5.8 Where the firm (manufacturer) fabricates forgings, castings, machinery and equipment components needed for its own production (further processing, assembling, construction), as well as mass-production products (ship fittings, hull fittings, etc.), technical supervision may be confirmed by the firm (manufacturer) documents affirmed by the Register.

Where the above products are fabricated by the same firm (manufacturer) for cooperation shipments or as the spare parts, supervision shall be confirmed by the certificates (C, C3, CTO) according to the RS Nomenclature.

6 APPROVAL OF TYPE MATERIALS, PRODUCTS, PRODUCTION PROCESSES AND SOFTWARE

6.1 The Type Approval Certificate (CTO) is a document of the Register, which certifies that a construction, properties, parameters, characteristics of a type material or product, found in the course of surveys and indicated in the approved technical documentation, meet the RS requirements and may be used for ships and items of technical supervision for the intended purpose.

The Type Approval Certificate (CTO) for the type production process certifies that an item of supervision manufactured according to the particular type production process and having characteristics and parameters indicated in the approved technical documentation meets the RS requirements and may be used for the intended purpose.

6.2 The Type Approval Certificate (CTO) certifies that the approval of the technical documentation and positive results of surveys of material and product prototype are accounted for by the Register in technical supervision of these materials and products manufactured under the established production conditions and intended for multiple deliveries to ships and floating facilities of various types.

6.3 In order to obtain the Type Approval Certificate (CTO) the firm (manufacturer) shall apply to the Register with a request and submit the technical documentation on the material, product, software or production process, as well as the programme and schedule of tests. When reviewing and approving this documentation, the scope of surveys during manufacture and testing of specimens shall be specified.

6.4 The Type Approval Certificate (CTO) is issued by the Register upon approval of the technical documentation and positive results of the surveys of the material, product, software or production process submitted.

For the material or product manufactured according to the established production process the Type Approval Certificate (CTO) is issued, having regard to the data on earlier tests, production and operation experience. Account may be taken of the Type Approval Certificate (CTO) of ACS or competent body or results of the tests of a type specimen conducted with participation of the above organizations. The number of documents to be submitted is in each case specified proceeding from the type of material or product.

6.5 The Type Approval Certificate (CTO) is issued for a period of up to 5 years.

6.5.1 Validity of the Type Approval Certificate (CTO) shall not exceed the period of approval of the technical documentation on the item of technical supervision.

6.5.2 After the expiry of validity, the Type Approval Certificate (CTO) is renewed on request from the firm (manufacturer). Where the Type Approval Certificate

(CTO) is renewed, technical documentation is re-approved and the material, product or production process is surveyed to the extent agreed upon with the Register.

6.6 The Type Approval Certificate (CTO) is issued by RHO or the RS Branch Offices.

The Type Approval Certificate (CTO) becomes invalid if design of the product, its properties, etc. have been changed without agreement with the Register; operational suitability of the material or product is not provided, requirements of the RS rules and international conventions, which have come into force after its issuance and which prescribe mandatory compliance with the requirements, are not met.

6.7 For welding consumables the Certificate of Approval for Welding Consumables (COCM) is issued, being at the same time the document certifying recognition by the Register of the firm as the manufacturer of welding consumables in accordance with the requirements of the RS rules.

The Certificate of Approval for Welding Consumables (COCM) is issued for a period of up to 5 years subject to its annual endorsement.

6.8 The Welding Procedure Approval Test Certificate (COTIIC) is a Register document certifying that a welding procedure used at a shipyard or firm (manufacturer) of welded structures has been tested and approved by the Register for application.

The Welding Procedure Approval Test Certificate (COTIIC) shall be endorsed not less than once every 2,5 years.

6.9 For programmes for computer-aided calculations, in compliance with Section 12, Part II "Technical Documentation", the Type Approval Certificate for Computer Program (CTOII) is issued.

6.10 The manufacturers of items of the RS technical supervision with codes 06010100MK, 06020000, 07010008, 07010009, 0700600, 07020300, 07020301, 08011400MK, 08030000, 08120000MK, 09010000, 09020000, 09024000, 09025000, 09030000, 09040000, 09050000, 09060000, 09060100, 09070000, 09080000, 09100000, 09120000, 10010000, 10020000, 10030000, 11000000 (as regards insulation materials), 12090000 and other items listed in IACS UI SC249 shall develop the procedure for purchase and control of asbestos-free materials and components applicable to all equipment, components and spare parts. This procedure shall include the following:

- methods of assessment and selection of suppliers;
- procedures for checking of the supplied asbestos-free products;

- drawing-up of asbestos-free declarations as supporting documentation for the manufactured item of technical supervision.

7 GENERAL REQUIREMENTS FOR FIRMS

7.1 GENERAL

7.1.1 The requirements of this Section apply to all firms, which activity is associated with the items of the RS technical supervision and is subject to the RS audit or recognition.

7.1.2 Audit of conformity or recognition of the firm by the Register includes:

.1 review of the documents confirming the compliance of the firm with the RS requirements;

.2 survey of the firm, including practical demonstration of completion of the works indicated in the request, verification of the records to ascertain that the firm organization and management are in compliance with the submitted documents and that the firm is able to perform works and render services, for which the approval (recognition) is requested. During periodical or renewal survey, to comply with this requirement the results of works or services affirmed by the Register may be used instead of the practical demonstration. The works performed or services rendered after the preceding survey may be accepted for review.

7.1.3 The firm shall submit for review:

.1 documents or their copies confirming fulfillment of the requirements of 7.2.1, 7.2.2, 7.2.6, 7.2.7, 7.2.8.3 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

.2 list of the activities performed (area of activity);

.3 lists of the personnel containing information on compliance of the personnel with the requirements of 7.2.2.1 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

.4 lists of the equipment and facilities indicated in 7.2.3.1, 7.2.4.1 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

.5 lists of the documents indicated in 7.2.4.3, 7.2.5.1 (with due regard to the requirements of the appropriate items in Sections 8 — 11);

.6 verification of approval/recognition by other authorities, if any;

.7 information on other activities, which may affect a conflict;

.8 list and documentation on manufacturer's licenses, where applicable;

.9 list of appointed agents;

.10 firm experience in the area of services rendered.

7.1.4 Survey of the firm aims at confirming the compliance of the firm with the requirements of 7.2.

The requirements for the firms performing certain activities are set forth in the relevant sections.

7.2 REQUIREMENTS

7.2.1 Legal status.

7.2.1.1 Legal status of the firm shall comply with the current legislation.

7.2.1.2 The firm shall have organizational structure and the Head.

7.2.2 Personnel.

7.2.2.1 Personnel of the firm shall have an appropriate education, professional and special training, qualification and experience necessary for performance of activity in the area indicated in the request.

7.2.2.2 The firm is responsible for qualification and professional training of its personnel in compliance with the national, international and branch standards; in case of absence of these standards — in compliance with the standards of the firm. This requirement shall be established in the documents of the firm.

7.2.3 Technique.

7.2.3.1 The firm shall have the technique necessary for performance of the activity in the area indicated in the request, including appropriate equipment, premises and facilities certified in the established order.

7.2.3.2 The firm shall provide the maintenance of the equipment and facilities in compliance with their operating and maintenance documentation.

7.2.3.3 The firm shall perform the activity on the documentation corresponding to each activity in the area indicated in the request with regard to the environmental conditions.

7.2.4 Measurement assurance.

7.2.4.1 The firm shall have and apply necessary measurement assurance in compliance with the procedures for testing and checking of items of the RS technical supervision, including:

.1 measuring equipment checked (calibrated) in the established order;

.2 testing equipment certified in the established order;

.3 reference and standard specimens;

.4 appropriate consumables (chemicals, substances, etc).

7.2.4.2 The firm shall provide the maintenance of measuring and testing equipment in compliance with their operating and maintenance documentation.

7.2.4.3 The firm shall have and adhere to the current standards and certified in the established order procedures:

.1 for testing of items of technical supervision with the required accuracy;

.2 for handling of samples.

7.2.5 Files of the firm documents.

7.2.5.1 The firm shall have the valid normative and technical documents necessary to perform activity in the area indicated in the request, including:

.1 documents containing requirements for items of technical supervision, including the RS rules;

.2 technical documentation on items of technical supervision;

.3 production documentation on performance, checking and control of each kind of activity.

7.2.5.2 The documentation shall be available for the firm personnel where necessary.

7.2.6 Reporting.

7.2.6.1 Form and content of reports in the area indicated in the request shall be acceptable for RS and shall include:

.1 name and address of the firm;

.2 identification of the report, e.g. report number;

.3 name and address of the customer;

.4 reference to the documents, in compliance with which the activity has been performed;

.5 description (name) of the item, in relation to which the activity has been performed;

.6 place where the activity has been performed;

.7 date when the activity has been performed;

.8 information on conditions, under which the activity has been performed;

.9 information on deviations from the requirements of the documents, in compliance with which the activity has been performed;

.10 entry to the effect that the activity has been performed under the RS technical supervision;

.11 full name, position and signature of the person who approved the report;

.12 number of every page and the total number of pages in the report.

7.2.6.2 Reports shall be stored in the firm for not less than five years under conditions of confidentiality. This requirement shall be specified in the firm documents.

7.2.7 Checking and control.

7.2.7.1 The firm shall do the checking and exercise control specified in the documentation for each kind of activity.

7.2.7.2 The firm shall take measures on elimination and prevention of non-conformities and claims against the firm activity in the area indicated in the request. This requirement shall be specified in the firm documents.

7.2.8 Subcontractors.

7.2.8.1 Subcontractors recruited by the firm for performance of activity in the area indicated in the request shall fulfill the requirements of Section 7.

7.2.8.2 The firm shall provide the audit of subcontractors' activity in the area indicated in the request.

7.2.8.3 The firm shall have agreements with subcontractors in the area indicated in the request.

7.2.9 Information on alterations to the certified service operation system.

7.2.9.1 In case where any alteration to the certified service operation system of the supplier is made, such alteration shall be immediately informed to the Register. Re-audit may be required when deemed necessary by the Register.

8 RECOGNITION OF SERVICE SUPPLIERS**8.1 GENERAL**

8.1.1 The requirements of this Section apply to the firms involved in the activities related to the items of the RS technical supervision. Kinds of the activities are indicated in Table 8.1.1.

8.1.1.1 For the purpose of this Section, the following definitions shall apply:

1 Manufacturer¹ is a firm that manufactures equipment required to be periodically serviced and/or maintained;

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Table 8.1.1

Code	Kinds of activity
22001000	Thickness measurements of ships under supervision of RS surveyor:
22001001	Category I: thickness measurements under supervision of RS surveyor on all ships regardless of their gross tonnage
22001002	Category II: thickness measurements under supervision of the RS surveyor on fishing vessels regardless of their gross tonnage and non-ESP ships less than 500 gross tonnage
22002000	Tightness testing of hatches, doors etc. with ultrasonic equipment
22003000	In-water surveys of ships and offshore installations
22004000MK	Inspection and maintenance of fire-extinguishing equipment, systems and outfit
22005000	Survey and maintenance of life-saving appliances:
22005001MK	inflatable liferafts
22005002	containers for inflatable liferafts
22005003MK	hydrostatic release units
22005004	lifebuoys
22005005	position-indicating lights of life-saving appliances, self-activating smoke signals
22005006MK	inflatable lifejackets
22005007MK	inflated rescue/fast rescue boats
22005008	equipment of lifeboats and liferafts
22005009	other life-saving appliances
22005010MK	marine evacuation systems, inflatable means of rescue
22005011	weak link, automatic gas inflation system, embarkation and pilot ladders, lifelines
22005012	non-inflatable lifejackets, immersion suits, anti-exposure suits, thermal protective aids
22005013	rigid-hull/combined rescue boats/fast rescue boats
22006000	Servicing and inspection of radio and navigational equipment:
22006001	shore-based maintenance and repair of GMDSS equipment in compliance with the requirements of regulation IV/15 of SOLAS 74, as amended and IMO resolution A.702(17)
22006002MK	servicing and testing of radio equipment on board ships or mobile offshore drilling units and fixed off shore platforms for compliance with the requirements of SOLAS 74, as amended (preliminary survey of radio equipment)
22006003	installation, commissioning, maintenance and repair of radio and navigational equipment, replacement of built-in power supply components, programming of radio equipment
22006004MK	annual performance testing of voyage data recorders (VDR) and simplified voyage data recorders (S-VDR) in accordance with regulation V/18.8 of SOLAS 74, as amended
22006006MK	annual testing of EPIRBs of the satellite system COSPAS-SARSAT
22006007MK	shore-based maintenance of EPIRBs of the satellite system COSPAS-SARSAT
22006008MK	inspection, testing and maintenance of automatic identification system (AIS)
22007000MK	Inspection and testing of centralized gas-welding and gas-cutting equipment
22008000MK	Inspection and maintenance of self-contained breathing apparatus
22012000	Examination of ro-ro ships bow, stern, side and inner doors
22015000MK	Inspections of low location lighting systems using photo luminescent materials and evacuation guidance systems used as an alternative to low-location lighting systems
22016000MK	Sound pressure level measurements of public address and general alarm systems on board ships
22021000MK	Maintenance, repair, inspections and testing (servicing and maintenance) of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks
22022000	Underwater thickness measurements of ships and offshore installations under supervision of RS surveyor
22023000MK	Expertise of safe carriage of bulk cargoes by sea
22024000MK	Measurements of noise level onboard ships
22025000	Tightness testing of primary and secondary barriers of gas carriers with membrane cargo containment systems for ships in service

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¹For Sections 10 and 12, the definition "Manufacturer" given in 1.1.1 shall be used.

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.2 Service supplier (a service supplier or category of service supplier may be referred to hereafter simply as "Supplier") is a person or firm not employed by the Register, who at the request of an equipment manufacturer, shipyard, shipowner or other client provides services for a ship or a mobile offshore drilling unit, such as measurements, tests or maintenance of safety systems and equipment, the results of which are used by the RS surveyors in making decisions affecting classification or statutory certification and services;

.3 Agent is a person or firm authorised to act for or to represent a manufacturer or approved/recognized service supplier;

.4 Subsidiary is a firm partly or wholly owned by a manufacturer or approved/recognized service supplier;

.5 Subcontractor is a person or firm providing services to a manufacturer or approved/recognized service supplier, with a formal contract defining the assumption of the obligations of the service supplier.

8.1.2 The firms that perform the activities listed in Table 8.1.1 shall be recognized by RS.

8.1.3 The firms that perform the activities related to the items of the RS technical supervision shall comply with the applicable general requirements listed in Section 7, the requirements in 8.2, appropriate specific requirements in 8.3 and those of Maritime Administrations, if any.

8.1.4 Recognition is conditional on a practical demonstration of the performance of the specific service as well as satisfactory reporting being carried out.

8.1.5 Recognition of the firm by the Register shall be confirmed by the Recognition Certificate (CII) issued in compliance with 3.4 — 3.7 and with regard to specific requirements depending on the area of the firm activities. The issued Recognition Certificate (CII) shall certify that the procedure for rendering the service by the firm complies with the RS Rules in the scope prescribed by the RS Rules and that the results of rendering services prescribed by the RS Rules may be recognized and used by the Register in making decisions affecting classification or statutory certification and services, as applicable. The Recognition Certificate (CII) shall clearly indicate the type and scope of services as well as any restrictions imposed.

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

8.1.5.2 The Register reserves the right to cancel the recognition and to inform another classification society (ACS) — IACS member accordingly.

8.1.5.3 The firm whose recognition was cancelled may apply for re-recognition, provided it has corrected the non-conformities, which resulted in cancellation, and the Register is able to confirm it has effectively implemented the corrective action.

8.2 REQUIREMENTS

8.2.1 Extent of recognition.

8.2.1.1 The firm shall demonstrate, as required by 8.2.2 — 8.2.11, that it has the competence and control needed to perform the services for which recognition is sought.

8.2.1.2 Where several servicing stations are owned by a given firm, each station shall be assessed and approved except as specified in 8.2.12.3.

8.2.2 Training of personnel.

The firm is responsible for the qualification and training of its personnel to a recognised national, international or industry standard as applicable. Where such standards do not exist, the firm shall define standards for the training and qualification of its personnel relevant to the functions each is authorised to perform. The personnel shall also have adequate experience and be familiar with the operation of any necessary equipment. Operators/technicians/inspectors shall have had a minimum of one year tutored on-the-job training. Where it is not possible to perform internal training, a program of external training may be considered as acceptable.

8.2.3 Supervision.

The firm 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 recognized. For a supplier consisting of one person, that person shall meet the requirements of a supervisor.

8.2.4 Personnel records.

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

8.2.5 Equipment and facilities.

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

8.2.6 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.

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Note. Commercial off-the-shelf software (e.g. word processing, 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.

8.2.7 Files of the firm documents.

The firm shall have the valid normative and technical documents necessary for performance of the activity in the area indicated in the request, including:

- .1 outline of firm, e.g. organization and management structure, including subsidiaries to be included in the recognition/certification;
- .2 list of nominated agents, subsidiaries and subcontractors;
- .3 experience of the firm in the specific service area;
- .4 for categories of firms that require authorization from manufacturers, manufacturer's documentary evidence that the firm has been authorised or licensed to service the particular makes and models of equipment for which recognition is sought shall be provided;
- .5 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;
- .6 description of equipment used for the particular service for which recognition is sought;
- .7 guides for operators of such equipment;
- .8 training programmes for operators/technicians/inspectors;
- .9 check lists and record formats for recording results of the services;
- .10 Quality Manual and/or documented procedures covering requirements in 8.2.12;
- .11 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;
- .12 evidence of approval/recognition by other bodies, if any;
- .13 information on the other activities which may present a conflict of interest;
- .14 record of customer claims and corrective actions;
- .15 documented procedures and instructions shall be available for the recording of damages and defects found during inspection, servicing and repair work. This documentation shall be made available upon request.

8.2.8 Procedures.

The firm shall have documented work procedures covering all services supplied.

8.2.9 Subcontractors.

The firm shall give information of agreements and arrangements if any parts of the services provided are subcontracted. Subcontractors providing anything other than equipment shall also meet the general requirements in 8.2.

8.2.10 Verification.

The firm shall verify that the services provided are carried out in accordance with approved procedures.

8.2.11 Reporting.

Reports on the results of activity performed shall contain a copy of the Recognition Certificate (CII), in addition to the information specified in 7.2.6.1. The reports shall detail the results of inspections, measurements, tests, maintenance and/or repairs carried out.

8.2.12 Quality System.

8.2.12.1 The firm shall have a documented system covering at least the following:

- .1 the Code of Ethics to conduct the relevant activity;
- .2 maintenance of equipment;
- .3 measurement assurance, checking (calibration) of measuring equipment;
- .4 training programmes for operators/technicians/inspectors;
- .5 supervision and verification to ensure compliance with operational procedures;
- .6 recording and reporting of information;
- .7 quality management of subsidiaries, agents and subcontractors;
- .8 job preparation;
- .9 corrective and preventive actions related to complaints;
- .10 periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents.

8.2.12.2 A documented Quality System complying with the most current version of ISO 9000 series and including the above items, would be considered acceptable according to 8.2.12.1.

8.2.12.3 If a manufacturer of equipment (and/or its service supplier) applies to the Register for inclusion of its nominated agents and/or subsidiaries in the Recognition Certificate (CII), then it shall implement a Quality System certified in accordance with the most 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 most current version of ISO 9000 series. Such recognition shall be based upon an evaluation of the Quality System implemented by the parent company against the most current version of ISO 9000 series. The Register 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.

8.2.13 Service suppliers relations with the equipment manufacturer.

8.2.13.1 A firm, which works as a service station for manufacturer(s) of equipment (and as a service supplier in this field), shall be assessed by the manufacturer(s) and nominated as their agent. The manufacturer shall ensure that appropriate instruction manuals, material etc. are available for the agent as well as proper training of

the agent's technicians. Such suppliers shall be recognized either on a case by case basis, or in accordance with 8.2.12.3.

8.3 SPECIAL REQUIREMENTS

8.3.1 Requirements for firms engaged in thickness measurements on ships (codes 22001001, 22001002).

The firms engaged in thickness measurements (hereinafter referred to as TM firms (TM service suppliers)) on ships comply the following categories:

Category I: those engaged in thickness measurements under supervision of RS surveyor on all ships regardless of their gross tonnage;

Category II: those engaged in thickness measurements under supervision of the RS surveyor on fishing vessels only regardless of their gross tonnage and non-ESP ships less than 500 gross tonnage.

8.3.1.1 Requirements for Category I firms.

8.3.1.1.1 Supervisor.

The responsible supervisor shall be qualified according to the recognized national or international industrial NDT standard (e.g. ISO 9712, Level II as amended).

The supervisor shall have adequate knowledge of ship structures and be able to assess the results of measurements performed in compliance with the RS normative documents.

8.3.1.1.2 Operators.

The operators carrying out the measurements shall be certified to a recognised national or international industrial standard (e.g. ISO 9712, Level I as amended) and shall have adequate knowledge of ship structures sufficient to elect a representative position for each measurement.

8.3.1.1.3 Operator/supervisor shall have appropriate qualification documents in ultrasonic testing (ultrasonic thickness) issued by the accredited body for training and certification of NDT personnel (hereinafter referred to as the NDT training and certification body) specified in 8.3.1.1.4.

For each service provided, an operator/supervisor shall have the power of attorney duly signed and sealed by a TM firm to enable him/her carrying out thickness measurements of hull structures on a particular ship. The validity of the power of attorney shall be established by the firm management. This term shall not exceed the term of the validity of the qualification document in ultrasonic testing (ultrasonic thickness measurements) or Recognition Certificate (CII) issued for the operator/supervisor, whichever is earlier.

8.3.1.1.4 NDT training and certification bodies.

Pursuant to EN ISO 9712, NDT training and certification bodies (operators/supervisors) shall be accredited by the international or national NDT certification authority for compliance with ISO/IEC 17024.

Self-declaration of compliance is not allowed.

The list of NDT accreditation bodies — members of the following international associations for NDT, can be found by the links below:

the European Federation for Non-Destructive Testing (EFNDT): <http://www.efndt.org/Members.aspx>

the International Committee for Non-Destructive Testing (ICNDT): <http://www.icndt.org/Directory.aspx>

Asia Pacific Federation for Non Destructive Testing (APFNDT): <http://apfndt.org/apfndt3.html>

Certification bodies accredited for training and certification of NDT personnel for items of the RS technical supervision (e.g. in shipbuilding and repair sector) according to EN ISO 9712 may be additionally certified by the RS in compliance with the requirements of Section 11 upon their request on the voluntary basis.

Certification bodies that are not accredited by the NDT accreditation bodies for personnel training and certification in non-destructive testing of items of the RS technical supervision according to EN ISO 9712 shall be certified by RS on a mandatory basis.

8.3.1.1.5 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.

8.3.1.1.6 Procedures.

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

8.3.1.1.7 Reporting.

In addition to 8.2.11, the report shall be based on the requirements of Appendices 2 and 4 to the Rules for the Classification Surveys of Ships in Service.

8.3.1.1.8 Details of Category I TM firm recognition.

TM firm recognition and issuance of the Recognition Certificate (CII) (form 7.1.4.2) are conditional on a practical demonstration of thickness measurements on board the ship performed under supervision of the RS surveyor, as well as satisfactory reporting being carried out based on the results of thickness measurement.

The Register shall issue the Certificate of Vocational Training (CIII) (form 7.1.34) to the operator/supervisor who has carried out thickness measurements confirming his/her appropriate qualification for carrying out thickness measurements on ships in compliance with the RS normative documents.

An entry on the type of service shall be made in the Annex to the Recognition Certificate (CII) reading as follows: "Category I: thickness measurements under supervision of the RS surveyor on board all ships regardless of their gross tonnage". During survey of recognized TM firms for renewal of the Recognition

See Circular
1156c

See
Circular
1156c

See
Circular
1177c

Certificate (CII), it shall be confirmed that they comply with the applicable requirements of the RS normative documents concerning the TM firm recognition, and that the residual thickness measurements during the period of validity of the Recognition Certificate (CII) have been carried out on particular ships under supervision of the surveyors to the Register or under supervision of the surveyors to ACS — IACS member whose Recognition Certificates (CII) are also available at the TM firm. It shall be also confirmed that thickness measurement reports have been duly signed and stamped by the RS or ACS — IACS member surveyors. Particular attention shall be paid to the relevance of the list of the TM firm operators/supervisors and to the availability of the necessary documents confirming the NDT personnel qualification.

8.3.1.1.9 Supervision for services rendered by a recognized TM firm.

Thickness measurements on the RS-classed ships carried out by the TM firm shall be provided under supervision of the RS surveyor or the surveyor to ACS — IACS member if the ship is submitted in location inaccessible for survey by the Register.

8.3.1.1.10 Information on the TM firms recognition status.

8.3.1.1.10.1 The IACS website provides links to the databases of official websites of classification societies participating in IACS PR No. 23 (hereinafter referred to as the participating society), which contain the information on the recognized TM firms (www.iacs.org.uk in "Ship/Company data/Thickness Measurement Firms" Section). Each participating society is responsible to provide information on alterations of the links in order to update the IACS website.

8.3.1.1.10.2 ACS — IACS member, including the Register, shall notify the other classification societies (participating societies) and the IACS Permanent Secretary on cancellation of the Recognition Certificates (CII) of the TM firms due to any reasons specified in 3.6.2, 3.6.7 — 3.6.9. RHO shall send a notification of cancellation of the recognition (Recognition Certificate (CII)) in the form given in IACS PR No. 23 to classification societies via e-mails posted in the "PR23 Contact Details" Section on the IACS website as well as to the IACS Permanent Secretary via e-mail: efs@iacs.org.uk within five (5) working days from the date of cancellation. On receipt by the Register of notification on cancellation of the recognition (Recognition Certificate (CII)) of the TM firm from ACS or other classification societies, RHO shall request ACS or other classification societies for any additional information on the reason for cancellation of the recognition (Recognition Certificate (CII)), if required. The obtained information is subject to the RHO review, and the decision is taken with regard to the possibility of maintaining the TM recognition by the Register, if any, or the possibility of issuance of the Recognition Certificate if the TM firm applies to RS for the first time.

The RHO and participating societies shall timely advise IACS Permanent Secretary on amendments made to their contact details in order to update information in the "PR23 Contact Details" Section in the IACS website accordingly.

8.3.1.1.10.3 Prior to issuance of a new Recognition Certificate (CII) to a TM firm or renewal of a valid one, the RS surveyor shall check the information on cancellation of the TM firm recognition by ACS on the RS internal website in Section "Information Systems/Industry Database/Information on Supervision in Industry/List of TM Firms Recognized by Other Classification Societies, whose Certificates are Cancelled" by link: <http://gur.rs-head.spb.ru/win/survey/sto/tmcan.htm>. In cases where the RS surveyor reveals that the recognition of any TM firm has been cancelled by ACS, he/she (if necessary) may contact RHO for further instructions on this occasion.

8.3.1.2 Requirements for Category II TM firms — limited recognition.

8.3.1.2.1 The objective of this limited recognition is recognition programme is verify that the TM firm has qualified personnel that are able to measure thicknesses, recognize types of wear, understand hull structural drawings, have adequate knowledge of ship structures in addition to having the necessary technical equipment to render professional assistance.

The firm recognition by the Register with regard to 8.3.1.2.6 shall include the following:

- .1 review of the documents confirming the firm compliance with the RS requirements;
- .2 survey of the firm.

8.3.1.2.2 Submission of documents.

The following documents shall be submitted to the Register for review:

- organization and management structure;
- list of operators supervisors having documented training tutorial, qualifications and experience;
- description of the equipment used, including maintenance and calibration procedures;
- operator's manual for such equipment.

8.3.1.2.3 NDT personnel documents.

The TM firm shall keep NDT personnel documents. These documents shall contain information on age, education, training and experience in thickness measurements.

An operator carrying out the measurements shall be certified in non-destructive testing minimum at Level I, according to a recognized national and international standard for qualification and certification of NDT (i.e. ISO 9712, as amended). An operator shall have a minimum of one year tutored on-job, a program of external training may be considered as acceptable. An operator shall have adequate knowledge of ship structure, sufficient to select a representative position for each measurement.

An operator shall have relevant qualification documents in ultrasonic testing (ultrasonic thickness) issued by the accredited body (refer to 8.3.1.1.4).

For each of service provided, an operator shall have a power of attorney duly signed and sealed by a TM firm, to enable him/her to carry out thickness measurements of hull structures on a particular ship.

8.3.1.2.4 Equipment.

Requirements for equipment are similar to those specified in 8.3.1.1.5.

8.3.1.2.5 Reporting.

In addition to 8.2.11, the report shall be based on Appendix 2 and Appendix 4 to the Rules for the Classification Surveys of Ships in Service.

8.3.1.2.6 Details of Category II firm recognition.

Upon reviewing the submitted documents with satisfactory results, the TM firm shall be audited to ascertain that the supplier (TM firm) is duly organized and managed in accordance with the submitted documents, and is capable of rendering the services which recognition of supplier (TM firm)/issuance of the Recognition Certificate (CII) is required.

The TM firm recognition and issuance of the Recognition Certificate (CII) are conditional on a practical demonstration of thickness measurement on board the ship performed under supervision of the RS surveyor, as well as satisfactory reporting being carried out based on the NDT results. Upon satisfactory completion of survey of the TM firm, the demonstration test and proper reporting, the Register shall issue relevant reports on survey and a Recognition Certificates (CII) stating that the procedures and methods for carrying out thickness measurements used by the TM firm have been recognized by the Register and may be accepted and used by the RS surveyors in making decisions during ship surveys. The following shall be specified in the Appendix to the Recognition Certificate (CII) (form 7.1.4.2):

"22001001 — Category II: thickness measurements under supervision of the RS surveyor on fishing vessels regardless of their gross tonnage and **non-ESP** ships with less than 500 gross tonnage". The Register shall issue the Certificate of Vocational Training (CIII) (form 7.1.34) to the operator who has carried out thickness measurements confirming his/her training in thickness measurements on board ships as per the RS normative documents.

During survey of recognized TM firms for renewal of the Recognition Certificate (CII), it shall be confirmed that they comply with the applicable requirements of the RS normative documents concerning the TM firm recognition, and that the residual thickness measurements during the period of validity of the Recognition Certificate (CII) have been carried out on particular ships under supervision of the surveyors to the Register or under supervision of the surveyors to ACS — IACS member whose Recognition Certificates (CII) are also

available at the TM firm. It shall be verified that thickness measurement reports are signed and sealed by the RS or ACS surveyors. Special consideration shall be given to the relevance of the list of operators employed in the TM firm and availability of required documents confirming the qualification of NDT personnel.

The Recognition Certificate (CII) shall be renewed according to Section 3.

The Register shall be immediately notified of any amendment made to the system for service rendering by the supplier, if any. The repeated check may be required as deemed necessary by the Register.

The recognition may be cancelled in cases specified in 3.6.

The Register reserves its right to cancel the recognition.

The supplier whose recognition was canceled may apply for re-recognition, provided it has corrected the non-conformances, which resulted in cancellation, and the Register is able to confirm it has effectively implemented the corrective action.

8.3.1.2.7 Supervision for services provided by the recognized TM firm.

The fact of supervision and performance of works in compliance with the requirements of the RS normative documents shall be certified by signature and stamp of the RS surveyor on the cover page of thickness measurement report (refer to 8.3.1.2.5).

8.3.2 Requirements for firms engaged in tightness testing of closing appliances such as hatches, doors etc. with ultrasonic equipment (code 22002000).

8.3.2.1 Extent of engagement — ultrasonic tightness testing of closing appliances such as hatches, doors etc.

8.3.2.2 Operators.

The operator shall have the following qualifications: have knowledge of different closing appliances, including their design, functioning and sealing features; have experience with the operation and maintenance of different closing appliances;

be able to document theoretical and practical training onboard in using the ultrasonic equipment specified.

8.3.2.3 Equipment.

It shall be demonstrated for the RS surveyor that the equipment is fit for the purpose of detecting leakages in losing appliances such as hatches, doors etc.

8.3.2.4 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.

8.3.3 Requirements for firms carrying out in-water surveys of ships and offshore installations (code 22003000).

8.3.3.1 Extent of engagement — in-water survey of ships and offshore installations by diver or remote operated vehicle (ROV).

8.3.3.2 Training of personnel.

The firm is responsible for the qualification of its divers and the diving equipment utilized when carrying out inspection. Knowledge of the following shall be documented:

ship's underwater structure and appendages, tail shaft, propeller, rudder and its bearings, etc.;

non-destructive testing in accordance with a recognised national or international industrial NDT standard. This requirement only applies if an in-water survey company performs non-destructive testing (e.g., visual and dimensional examination, ultrasonic testing, ultrasonic thickness measurement, etc.);

bearing clearance measurements on rudders and tail shaft;

underwater video monitoring with TV-monitors on deck, as well as still picture work; underwater communication systems;

special equipment and tools e.g. hull cleaners, grinders, cutters, etc.

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

8.3.3.4 Supervisor.

The supervisor shall be qualified according to the supplier's general requirements and shall have a minimum of two years' experience as a diver carrying out inspection.

8.3.3.5 Diver.

The diver shall have had at least one year's experience as an assistant diver carrying out inspections (including participation in a minimum of 10 different assignments).

8.3.3.6 Equipment.

The firms shall have the following:

closed circuit colour television with sufficient illumination equipment;

two-way communication between diver and surface staff;

video recording device connected to the closed circuit television;

still photography camera;

equipment for carrying out thickness gauging, non-destructive testing and measurements (e.g. clearances, indents, etc., as relevant to the work to be performed);

equipment for cleaning of the hull;

ROV, if applicable.

8.3.3.7 Procedures and guidelines.

The supplier shall have documented operational procedures and guidelines for how to carry out the inspection and how to handle the equipment. These shall include:

two-way communication between 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.

8.3.3.8 Verification of services rendered by the recognized firm.

All in-water surveys of ships and offshore installations shall be performed by the firm under the supervision of the RS surveyor. The supplier shall have the surveyor's verification of each separate job performed in compliance with the Register normative documents, documented in the report by the attending surveyor's signature and seal.

8.3.4 Requirements for firms engaged in inspection and maintenance of fire-extinguishing equipment and systems (code 2200400MK).**8.3.4.1 Extent of engagement.**

Inspections and maintenance of fire-extinguishing equipment and systems such as fixed fire extinguishing systems, portable fire extinguishers and fire detection and alarm systems.

8.3.4.2 Files of the firm documents.

8.3.4.2.1 The firm shall have access to the following documents:

.1 manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;

.2 Type Approval Certificates showing any conditions that may be appropriate during the servicing and/or maintenance of fire-extinguishing equipment and systems;

.3 SOLAS, MSC.1/Circ.1318 "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 authorization or license from the equipment manufacturer;

.4 MSC/Circ.670 "Guidelines for the Performance and Testing Criteria and Surveys of High Expansion Foam Concentrates for Fixed Fire-Extinguishing Systems";

.5 MSC/Circ.798 "Guidelines for the Performance and Testing Criteria and Surveys of Medium Expansion Foam Concentrates for Fixed Fire-Extinguishing Systems";

.6 MSC/Circ.799 "Guidelines for the Performance and Testing Criteria and Surveys of Expansion Foam Concentrates for Fixed Fire-Extinguishing Systems of Chemical Tankers";

.7 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";

.8 MSC.1/Circ.1432 "Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances";

.9 IMO resolution A. 951(23) "Improved Guidelines for Marine Portable Fire Extinguishers";

.10 MSC.1/Circ.1370 "Guidelines for the Design, Construction and Testing of Fixed Hydrocarbon Gas Detection Systems";

.11 Guidelines adopted by IMO for fire-extinguishing equipment and systems specifically intended for service by service suppliers.

8.3.4.2.2 In addition to the documents listed in 8.3.4.2.1, the firm shall have applicable documents specified in 4.3, Part IV "Technical Supervision during Manufacture of Products" as well as recognized international and/or national standards prescribing the requirements and test procedures for items under technical supervision.

8.3.4.3 Extent of recognition.

8.3.4.3.1 Representatives of the firm shall have professional knowledge of fire theory, fire-fighting and fire-extinguishing appliances sufficient to carry out the maintenance and/or inspections, and to make the necessary evaluations of the condition of the equipment.

8.3.4.3.2 In demonstrating professional knowledge, representatives of the firm shall have an understanding of the various types of fires and the extinguishing media to be used on them.

8.3.4.3.3 For fixed fire-extinguishing systems, representatives of the firm shall demonstrate an understanding of the principles involved with gas, foam, deluge, sprinkler and water-mist systems, as relevant for the approval being sought.

8.3.4.4 Procedures.

The firms shall have documented procedures and instructions on how to carry out the servicing of the equipment and/or system. These are to 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 valid requirements (e.g. what markings shall be appended to the equipment/system).

8.3.4.5 Equipment and facilities.

8.3.4.5.1 General requirements.

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

8.3.4.5.2 Equipment.

Sufficient and appropriate spares and tools shall be available as applicable, which shall include:

.1 various scales to weigh items;

.2 means to hydrostatically pressure test components/systems/storage bottles;

.3 liquid/gas, flow meters, as appropriate;

.4 pressure gauges;

.5 in the cases of foam concentrates and portable fire-extinguishers, chemical analysis equipment and a testing bay, respectively; and

.6 specific equipment/spares as may be specified by the manufacturer;

.7 level measuring equipment for bottles;

.8 recharging facilities for pressurized bottles, extinguishers and cartridges.

8.3.5 Requirements for firms engaged in survey and maintenance of life-saving appliances (codes 22005001MK, 22005002, 22005003MK, 22005006MK, 22005007MK, 22005008, 22005009, 22005010MK).

8.3.5.1 Extent of engagement.

.1 servicing of inflatable liferafts, inflatable life-jackets, hydrostatic release units and/or inflated rescue boats;

.2 servicing of marine evacuation systems.

8.3.5.2 Equipment and facilities.

IMO resolution A.761(18) as amended by IMO resolution MSC.55(66) 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.

8.3.5.3 Procedures and instructions.

The firm shall have documented procedures and instructions for how to carry out 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 IMO resolution A.761(18) as amended by IMO resolution MSC.55(66).

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

8.3.5.5 Reference documents.

The firm shall have access to the following documents:

.1 IMO resolution A.761(18) "Recommendation on Conditions for the Approval of Servicing Stations for Inflatable Liferafts" (adopted on 4 November 1993), amended by IMO resolution MSC.55(66);

.2 IMO resolution MSC.55(66);

.3 MSC.1/Circ.1328 "Guidelines for the Approval of Inflatable Liferafts Subject to Extended Service Intervals Not Exceeding 30 Months";

.4 manufacturer's servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;

.5 Type Approval Certificates, showing any conditions that may be appropriate during the servicing and/or maintenance of inflatable liferafts, inflatable rescue boats, inflatable lifejackets, and hydrostatic release units;

.6 International Life-Saving Appliances Code (LSA Code) Chapter IV, 1995 SOLAS Conference Resolution 4 regarding marine evacuation systems.

8.3.6 Requirements for firms engaged in survey and maintenance of life-saving appliances (codes 22005004, 22005005, 22005011, 22005012, 22005013).

8.3.6.1 The firms engaged in activities with codes 22005011 (weak link, automatic gas inflation system), 22005013, shall meet applicable requirements of IMO resolution A.761(18) as amended by IMO resolution MSC.55(66).

8.3.6.2 The firm shall have documented procedures and instructions on methods of equipment maintenance. The procedures shall include requirements to record the nature and dimensions of damages as well as defects revealed during maintenance and repair. The shipowner shall be notified of all revealed defects affecting the further use of this equipment. In case of differences, relevant information from the firm (service supplier) shall be forwarded to the nearest RS Branch Office to settle the differences. These data shall be made available to the Register upon request.

8.3.6.3 The firm engaged in servicing and maintenance of rigid-hull/combined rescue boats/fast rescue boats (code 22005013) shall provide evidence that it has been authorised or licensed to serve the particular types and models of equipment by the equipment manufacturer.

8.3.7 Requirements for firms engaged in servicing and inspection of radio and navigational equipment with codes 22006000 (22006001 — 22006008MK).

8.3.7.1 Special requirements for firms engaged in activities with codes 22006001, 22006003, 22006004MK and 22006007MK.

8.3.7.1.1 Legal status.

The firm shall submit agreements with the equipment manufacturers entitling the firm to perform specific kinds of activities and laying down the procedure for providing the firm with spare parts.

8.3.7.1.2 Personnel.

The firm shall submit documents certifying that the firm's personnel have completed training in the equipment manufacturer's premises entitling them to perform specific kinds of activity.

8.3.7.2 Requirements for firms engaged in inspection of radio and navigational equipment (codes 22006002MK, 22006008MK).

8.3.7.2.1 Extent of engagement.

Inspection and tests of radio equipment and automatic identification system (AIS) on board ships or mobile offshore drilling units for compliance with SOLAS 74/78 as amended.

8.3.7.2.2 Reference documents.

The firm shall have access to the following documents:

.1 SOLAS 74 as amended;

.2 IMO resolution A.789(19) "Specification on the Survey and Certification Functions of Recognised Organisations Acting on Behalf of the Administration";

.3 MSC.1/Circ.1252 "Guidelines on Annual Testing of the Automatic Identification System (AIS)";

.4 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;

.5 ITU Radio Regulations;

.6 IMO Performance Standards for radio communication equipment;

.7 Flag State Administration requirements;

.8 relevant parts, if any, of the Register rules and guidelines.

8.3.7.2.3 Supervisor.

The supervisor shall have a minimum two years education from a technical school, experience as inspector, and shall preferably hold a General Operator's Certificate (GOC) or a GMDSS Radioelectronic Certificate (REC), recognised 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.

8.3.7.2.4 Radio inspector.

The inspector carrying out 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, recognised 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.

8.3.7.2.5 Equipment.

8.3.7.2.5.1 The firm 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.

8.3.7.2.5.2 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.

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

8.3.7.2.5.4 Minimum required instruments:

.1 equipment for measuring frequency, voltage, current and resistance;

.2 equipment for measuring output and reflect effect on VHF and MF/HF;

.3 equipment for measuring modulation on MF/HF and VHF;

.4 acid tester for checking specific gravity of lead batteries;

.5 equipment for testing the performance of automatic identification system (AIS).

8.3.7.2.6 Procedures and instructions.

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

8.3.7.3 Firms engaged in annual performance testing of Voyage Data Recorders (VDR) and simplified Voyage Data Recorders (S-VDR) in accordance with SOLAS Chapter V Regulation 18.8 (code 22006004MK).

8.3.7.3.1 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/Circ.1222 "Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)", as applicable.

8.3.7.3.2 The firm shall provide evidence that he has been authorised or licensed by the equipment's manufacturer to service the particular makes and models of equipment for which recognition is sought.

8.3.7.3.3 Where the firm is also the manufacturer of VDR or S-VDR and has elected to apply MSC.1/Circ.1222 in its entirety for the purpose of acting as a service supplier engaged in annual performance testing, the following shall apply:

.1 the manufacturer is responsible for appointing manufacturer's authorised service stations to carry out annual performance testing;

.2 the manufacturer is required to be a recognized service supplier and shall satisfy the requirements for the firms engaged in annual performance testing of VDR and S-VDR, as applicable;

.3 the manufacturer's authorised service station is not required to be a recognized service supplier;

.4 the manufacturer shall demonstrate that MSC.1/Circ.1222 is applied in its entirety.

8.3.7.3.4 Procedures.

8.3.7.3.4.1 The firm shall have documented procedures and instructions.

8.3.7.3.4.2 Where the firm is also the manufacturer of VDR or S-VDR and has selected to apply MSC.1/Circ.1222 in its entirety for the purpose of acting as a service supplier engaged in annual performance testing, the following shall apply:

.1 the manufacturer shall have documented procedures for the assessment and authorization of manufacturer's authorised service stations who carry out annual performance testing;

.2 the manufacturer shall have documented procedures for the review of manufacturer's authorised service stations annual performance test reports, analysis of the VDR/S-VDR 12-hour log and the issue of annual performance test certificates to the shipowner/operator;

.3 the manufacturer shall maintain a list of manufacturer's authorised 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.

8.3.7.3.5 Reference documents.

8.3.7.3.5.1 The service supplier shall have access to the following documents:

.1 IMO — SOLAS 74/78, Chapter V, Regulation 18.8 "Approval, Surveys and Performance Standards of Navigational Systems and Equipment and Voyage Data Recorder";

.2 MSC.1/Circ.1222 "Guidelines on Annual Testing of Voyage Data Recorders (VDR) and Simplified Voyage Data Recorders (S-VDR)" (11 December 2006);

.3 IMO resolution A.861(20) as amended by IMO resolution MSC.214(81) and revised by IMO resolution MSC.333(90);

.4 IMO resolution MSC.163(78) "Performance Standards for Shipborne Simplified Voyage Data Recorders (S-VDRs)" (adopted on 17 May 2004) as amended by IMO resolution MSC.214(81).

8.3.7.3.5.2 The service supplier shall have access to applicable industry performance standards, e.g.:

.1 IEC 61996 "Maritime Navigation and Radio Communication Equipment and Systems — Shipborne Voyage Data Recorder (VDR)";

.2 IEC 61996-2 "Maritime Navigation and Radio Communication Equipment and Systems — Shipborne Voyage Data Recorder (VDR) — Part 2: Simplified Voyage Data Recorder (S-VDR) — Performance Requirements, Method of Testing and Required Test Results".

8.3.7.3.5.3 The service supplier shall also have access to any documentation specified in the authorization or license from the equipment manufacturer.

8.3.7.3.6 Equipment and facilities.

The service supplier shall have equipment as specified in the authorization or license from the equipment manufacturer.

8.3.7.3.7 Reporting — Test Report.

8.3.7.3.7.1 The firm shall issue a certificate of compliance as specified in SOLAS 74, as amended, Chapter V, Regulation 18.8.

8.3.7.3.7.2 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/Circ.1222, signed and stamped by the firm and attached to the annual performance test certificate.

8.3.7.3.7.3 Where the service supplier is also the manufacturer of VDR/S-VDR and has selected to apply MSC.1/Circ.1222 "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:

- .1 review of the manufacturer's authorised service station annual performance test report;
- .2 analysis of the recorder's 12-hour log;
- .3 checking of the master record/database for the recorder.

8.3.7.3.7.4 Issue of the annual performance test certificate to the shipowner/operator within 45 days of completion of the annual performance test.

8.3.7.4 Requirements for firms engaged in shore-based servicing and testing of EPIRBs of COSPAS-SARSAT satellite system (code 22006006MK, 22006007MK).

8.3.7.4.1 Extent of engagement.

Shore-based servicing emergency radio beacons (EPIRB-406) of the COSPAS-SARSAT satellite system. Annual tests of EPIRBs of COSPAS-SARSAT satellite system.

8.3.7.4.2 Operator.

The firm personnel shall undergo the relevant training and hold the Certificate for EPIRB manufacturer confirming its right for EPIRB-406 shore-based servicing performance.

8.3.7.4.3 Equipment.

The firm shall have the following:

- .1 set of calibrated equipment for servicing the EPIRB-406 in accordance with the provisions of MSC/Circ.1039;
- .2 screened room or the relevant screening equipment preventing the transmission of a signal from the EPIRB-406 being checked to a satellite;
- .3 set of spare parts, spare supply units approved by the manufacturer, as well as the reserve stock of EPIRB-406 in amounts agreed with the manufacturer (for a temporary EPIRB-406 replacement on a ship for a period of servicing).

8.3.7.4.4 Procedures and guidelines.

The firm shall have the following:

- .1 documented operating procedures and guidelines regulating EPIRB-406 servicing performance;
- .2 log of servicing with details of the scope of inspections carried out and the components replaced;
- .3 set of technical documentation for those types of EPIRB-406, which the firm is authorised to service;
- .4 service-bulletins distributed by the EPIRB-406 manufacturer;
- .5 last version of the software provided by the EPIRB-406 manufacturer or the manufacturer of the equipment used during inspection, as well as access to the renewal of that software.

8.3.7.4.5 Confirmation of authorities.

Firms shall present the confirmation of authority, i.e. contractual relations with the manufacturer for supply of

spare parts, power supply units and consumables, as well as the document authorizing shorebased servicing performance for the specific EPIRB-406 type(s) on behalf of the EPIRB-406 manufacturer.

8.3.7.4.6 Annual testing of EPIRB.

Annual tests of EPIRB shall be performed according to IMO circular HMO MSC.1/Circ.1040/Rev.1 and/or MSC.1/Circ.1123.

8.3.8 Requirements for firms engaged in inspection and testing of centralized gas-welding and gas-cutting equipment (code 22007000MK).

The firm shall document and demonstrate its knowledge gas welding, associated central gas installation systems and current safety requirements applicable to such equipment by national Administrations. This knowledge shall be sufficient to carry out inspections and testing and to make the necessary evaluations of the equipment condition.

8.3.9 Requirements for firms engaged in surveys and maintenance of self-contained breathing apparatus (code 22008000MK).

8.3.9.1 Extent of engagement.

Inspections and maintenance of self-contained breathing apparatus and emergency escape breathing devices (EEBD).

8.3.9.2 The firm shall document and demonstrate that it has knowledge of the equipment and systems sufficient to carry out 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, firms shall have an understanding of the operational requirements involved with self-contained breathing apparatus and how these shall be maintained.

Additionally, the firms shall demonstrate the necessary safety requirements applicable to such equipment.

8.3.9.3 Files of the firm documents.

The firm shall have documented procedures and instructions on how to carry out the servicing of the equipment and/or system. These are to 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 shall be applied.

8.3.9.4 Reference documents.

The firm shall have access to the following documents: manufacturers' servicing manuals, servicing bulletins, instructions and training manuals, as appropriate;

Type Approval Certificates showing any conditions, which may be appropriate during the servicing and/or maintenance of self-contained breathing apparatus.

8.3.9.5 Equipment and facilities.

8.3.9.5.1 General requirements.

If firms undertake shore-based inspecting and maintenance, they shall maintain and implement proce-

See
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dures for workshop cleanliness, ventilation and arrangement, with due cognisance of the spares and pressurised bottles being stored, to ensure safe and effective working procedures.

The firms 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.

8.3.9.5.2 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:

- .1 various scales to weigh items;
- .2 means to hydrostatically pressure test components/systems/storage bottles;
- .3 flow meters;
- .4 pressure gauges;
- .5 equipment for checking air quality;
- .6 recharging facilities for breathing apparatus.

8.3.10 Requirements for firms engaged in examination of ro-ro ships bow, stern, side and inner doors (code 22012000).

8.3.10.1 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.

8.3.10.2 The firm shall be certified to the most current version of ISO 9000 series.

8.3.10.3 Reference documents.

The firm shall have access to the following reference documents:

- SOLAS 74/78, as amended;
- ISO 9001 "Quality systems — Model for quality assurance in production, installation and servicing";
- IACS Unified Requirement (UR) Z24 "Survey Requirements for Shell and Inner Doors of Ro-Ro Ships";

the Register normative documents related to inner doors.

8.3.10.4 Supervisor.

In addition to 8.2.3, a technician/supervisor shall have a minimum two years related education from a technical school.

8.3.10.5 Training of personnel.

Operators carrying out non-destructive testing shall be qualified to a recognised national or international standard for the methods used.

8.3.10.6 Required equipment.

8.3.10.6.1 For inspection of supporting securing and locking devices, hinges and bearings, the equipment for measuring clearances (i.e. feeler gauges, vernier calipers, micrometers) shall be provided.

Inspection shall be performed by non-destructive testing (i.e. dye penetrant, magnetic particle inspection).

8.3.10.6.2 For tightness testing ultrasonic leak detector or equivalent shall be provided.

8.3.10.6.3 For inspection of hydraulic operating system, the following shall be provided:

- pressure gauges;
- particle counter for analysing the quality of hydraulic fluid.

8.3.10.6.4 For inspection of electric control system and indication system, the following shall be provided:

- digital multi-meter;
- earth fault detector.

8.3.10.7 Procedures and instructions.

8.3.10.7.1 The supplier shall have access to drawings and documents, including the Operating and Inspection Manual.

8.3.10.7.2 The firm shall have access to access to the service history of the doors.

8.3.10.7.3 The supplier shall use, complete and sign a checklist which has been found acceptable by the Register.

8.3.11 Requirements for 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 (code 22015000MK).

8.3.11.1 Extent of engagement.

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

8.3.11.2 Operators.

The operator shall have the appropriate qualification, adequate knowledge of the applicable international requirements (namely SOLAS 74/78/00, regulation II-2/13.3.2.5, IMO resolution A.752(18), ISO 15370-2010, FSS Code Chapter 11), shall be able to document theoretical and practical training onboard in using equipment specified.

8.3.11.3 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} to 10 cd/m^2 .

8.3.11.4 Procedures.

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

8.3.11.5 Reporting.

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

8.3.11.6 Verification.

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

8.3.11.7 Reference documents.

The service supplier shall have access to the following documents:

.1 IMO — SOLAS 74/78, Chapter II-2, Part D, Regulation 13.3.2.5 "Marking of escape routes";

.2 IMO — Fire Safety Systems (FSS Code), Chapter 11 "Low-location lighting systems";

.3 IMO resolution A.752(18) "Guidelines for the Evaluation, Testing and Application of Low-Location Lighting on Passenger Ships" (adopted on 4 November 1993);

.4 ISO 15370:2010 "Ships and Marine Technology — Low-Location Lighting on Passenger Ships — Arrangement";

.5 MSC/Circ.1168 "Interim Guidelines for the Testing, Approval and Maintenance of Evacuation Guidance Systems Used as an Alternative to Low-Location Lighting Systems".

8.3.12 Requirements for firms engaged in sound pressure level measurements of public address and general alarm systems on board ships (code 22016000MK).

8.3.12.1 Extent of engagement.

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

8.3.12.2 Operators.

The operator shall have the appropriate qualification, have adequate knowledge of the applicable international requirements (namely, regulations III/4 and III/6 of SOLAS 74/78, as amended, LSA Code, Chapter VII/7.2, Code on Alarms and Indicators, 1995), shall be able to document theoretical and practical training onboard in using equipment specified.

8.3.12.3 Equipment.

The measuring instrument shall be an integrating sound level meter with frequency analyser capabilities complying with IEC 60651 and IEC 691672, 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 carried out. In addition, microphones shall be of the random incidence type, complying with IEC 60651.

8.3.12.4 Procedures.

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

8.3.12.5 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 carried out. The report shall conform to any other specific requirement of the Register.

8.3.12.6 Verification.

The supplier must have the RS surveyor's verification of each separate job, documented in the report by his signature.

8.3.12.7 Reference documents.

The service supplier shall have access to the following documents:

.1 SOLAS 74/78, Chapter III, Part A, Regulation 4 "Evaluation, Testing and Approval of Life-Saving Appliances and Arrangements";

.2 SOLAS 74/78, Chapter III, Part B, Regulation 6 "Communications";

.3 LSA Code, Chapter VII, Regulation 7.2 "General Alarm and Public Address System";

.4 Code on Alarms and Indicators, 1995 as amended;

.5 IEC 60651 (2001-10) "Sound Level Meters";

.6 IEC 61672 "Electroacoustics — Sound Level Meters";

.7 IEC 61260 "Electroacoustics — Octave-Band and Fractional-Octave-Band Filters".

8.3.13 Requirements for firms engaged in the servicing and maintenance of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks (code 22021000MK).

8.3.13.1 Extent of engagement.

Thorough examination, maintenance, repair and testing of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks.

8.3.13.2 Extent of recognition.

8.3.13.2.1 The contents of this procedure apply equally to manufacturers when they are acting as service suppliers.

8.3.13.2.2 Any firm engaged in the thorough examination, maintenance, repair, inspections and testing of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks carried out in accordance with SOLAS 74 regulation III/20 shall be qualified in these operations for each make and type of the equipment for which they provide the service, and provide RS with the manufacturer's documentary evidence that they have been so authorized or they are certified in accordance with IMO circular MSC.1/Circ.1277, as amended.

8.3.13.3 In cases where an equipment manufacturer is no longer in business or no longer provides technical support, the firm may be authorised 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.

8.3.13.4 Qualifications and training of personnel.

The firm personnel shall be trained and qualified in the operations, for which they are authorised, for each make and type of equipment, for which they provide the service. Such training and qualification shall include the following, as a minimum.

8.3.13.4.1 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 guidelines in the appendix for each make and type of equipment, for which service shall be provided.

8.3.13.4.2 The education and training for initial certification of personnel shall be documented and address, as a minimum:

- .1 causes of lifeboat accidents;
- .2 relevant rules and regulations, including international conventions;
- .3 design and construction of lifeboats, launching appliances, on-load release gear and davit-launched liferaft automatic release hooks;
- .4 education and practical training in the procedures specified in Annex 1 of IMO circular MSC.1/Circ.1206/Rev.1, for which certification is sought;
- .5 detailed procedures for thorough examination and inspection, maintenance, testing and repair of lifeboats, including launching appliances and on-load release gear, as well as on-load release gear and davit-launched liferaft automatic release hooks, as applicable;
- .6 procedures for issuing a report of service and statement of fitness for purpose based on IMO circular MSC.1/Circ.1206/Rev.1 (Annex 1, paragraph 15).

8.3.13.5 The education and training for the personnel shall include practical technical training on actual inspection, maintenance, repair and testing using the equipment (lifeboats, launching appliances and/or on-load release gear), for which the personnel shall 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 an experienced senior certified person.

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

8.3.13.7 The service supplier shall require refresher training as appropriate to renew the certification.

8.3.13.8 Reference documents.

The service supplier shall have access to the following documents:

- .1 IMO circular MSC.1/Circ.1206/Rev.1, as amended, "Measures to Prevent Accidents with Lifeboats";
- .2 IMO circular MSC.1/Circ.1277, as amended, "Interim Recommendation on Conditions for Authorization of Service Providers for Lifeboats, Launching Appliances and On-Load Release Gear";
- .3 IMO resolution A.689(17) "Recommendation on Testing of Life-Saving Appliances" and, for life-saving appliances installed on board on or after 1 July 1999;
- .4 IMO resolution MSC.81(70) "Revised Recommendation on Testing of Life-Saving Appliances", as amended;
- .5 for servicing and repair work involving disassembly or adjustment of on-load release mechanisms,

availability of the equipment manufacturer's specifications and instructions;

.6 Type Approval Certificate showing any conditions that may be appropriate during the servicing and/or maintenance of lifeboats, launching appliances and on-load release gear.

8.3.13.9 Equipment and facilities.

8.3.2.19.1 The firm shall have access to the following:

- .1 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;
- .2 sufficient materials, spare parts and accessories as specified by the equipment manufacturer for repairing lifeboats, launching appliances and on-load release gear, as applicable;
- .3 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.

8.3.13.10 Reporting.

The report shall conform to the requirements of IMO circular MSC.1/Circ.1206/Rev.1 (Annex 1, paragraph 15). 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 firm.

8.3.14 Requirements for firms engaged in underwater thickness measurements of ships and offshore installations under supervision of RS surveyor (code 22022000).

8.3.14.1 Firm.

See Circular 1219c

The firm shall comply with requirements for firms engaged in in-water surveys of ships and offshore installations (code 22003000) and in thickness measurements of ships under supervision of RS surveyor (code 22001000).

8.3.14.2 Personnel.

8.3.14.2.1 In addition to the requirements in 8.3.1, the personnel involved in underwater thickness measurements of ships shall be qualified both as a diver and an operator/supervisor on thickness measurements (refer to 8.3.3).

8.3.14.2.2 In addition to applicable requirements in 8.3.1.1, divers-operators/supervisors on thickness measurements shall have a Certificate of Vocational Training (form 7.1.34), confirming that they are trained in thickness measurements on board ships.

8.3.14.2.3 For underwater thickness measurements, special-purpose instruments shall be used capable of providing at least the following:

metal thickness measurements without preliminary preparation of the surface and removal of protective coating;

option to use the equipment together with the data display and storage unit on board the ship such as digital

repeater or personal computer with customized software. The thickness gauge data shall be transmitted to the ship through a connecting cable and displayed on a digital repeater or a personal computer to facilitate monitoring of thickness measurements by the RS surveyor.

8.3.15 Special requirements for firms engaged in expertise of safe carriage of bulk cargoes by sea (code 22023000MK).

8.3.15.1 Legal status.

8.3.15.1.1 The firm and its personnel shall not be involved in any activities that may impair their independence and impartiality in respect of services rendered. The firm and its personnel involved in this kind of activity shall not interact with the developer, manufacturer, supplier, purchaser, owner, user or accompanying person (forwarder/agent), shipowner and underwriter or any representative thereof.

8.3.15.1.2 The firm activities on expertise of safe carriage of bulk cargoes by sea shall be independent from any other kind of commercial activities.

8.3.15.2 Personnel.

8.3.15.2.1 The firm shall have a sufficient number of technical, managing and service personnel capable of providing up-to-date expertise of safe carriage of bulk cargoes by sea, including those specialized in the following areas:

- .1 cargo carriage by sea;
- .2 analysis of physical and chemical properties of bulk cargoes;
- .3 ship theory and design.

8.3.15.2.2 The firm personnel involved in development of Declarations of the Transportation Characteristics and Conditions for the Safe Shipment of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading as well as in development and implementation of the procedures for sampling, laboratory testing and water content monitoring shall have:

- .1 higher education and field-specific continuing professional education corresponding to the area of recognition;
- .2 appropriate skills and competence with regard to the expertise of safe bulk cargo carriage by sea and monitoring of safety precautions during the cargo carriage by sea;
- .3 confirmed work experience in expertise of safe bulk cargo carriage by sea and development of Declarations on Transportation Characteristics and Conditions for the Safe Carriage of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading not less than 3 years.

8.3.15.2.3 The firm shall have at least five employees involved in full-time activities complying with 8.3.8.2.2.

8.3.15.2.4 Employees not complying with 8.3.8.2.2 may be involved in activities, provided that they perform these activities under supervision of the employees complying with these requirements.

8.3.15.2.5 The firm shall submit the following documents confirming fulfilment of the established requirements:

- .1 employment agreements or their copies;
- .2 civil law agreements or their copies;
- .3 certificates on higher education, secondary vocational education or continuing professional education or their copies;
- .4 employment record books or their copies.

8.3.15.3 Measurement assurance.

The firm shall incorporate a testing laboratory accredited by the Federal Accreditation Service complying with 9.3.9.

8.3.15.4 Files of the firm documents.

8.3.15.4.1 The firm shall develop and keep its own register and information files of national and international rules and regulations applicable to the expertise of safe bulk cargo carriage by sea including cargo handling operations in ports.

8.3.15.4.2 The firm shall have valid normative and technical documents required for performance of activities in the expertise of safe bulk cargo carriage by sea including the following:

- .1 national and international normative documents regulating carriage of bulk cargoes by sea;
- .2 technical regulations, interstate, state and industry standards, technical specifications, safety data sheets for materials to be declared and certified;
- .3 international and national standards regulating sampling, sample preparation and laboratory tests of materials to be declared and certified.

8.3.15.4.3 The firm shall keep, store for a period of 10 years and submit to the Register the following report documents both in Russian and English:

- .1 list of the personnel authorized to perform bulk cargo sampling with specimen signatures;
- .2 training record books for the personnel involved in sampling and sample preparation;
- .3 reports on internal review to ensure that the procedures for sampling and sample preparation are applied correctly;
- .4 record books of spot samples and forms where the traceability of the subsample and representative sample is ensured;
- .5 record books for maintenance, calibration and testing of sampling and sample preparation equipment;
- .6 reports on deviations from the approved sampling and sample preparation procedures and any modification to the procedures.

8.3.15.5 Quality System.

8.3.15.5.1 The firm shall develop, implement and maintain as well as certify the Quality System for compliance with the effective version of ISO 9001 by the certification authority accredited in compliance with the effective version of ISO/IEC 17021 or its national equivalent.

8.3.15.5.2 The firm shall develop and implement the procedures prescribing the following:

.1 development of Declaration on Transportation Characteristics and Conditions for the Safe Carriage of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading with regard to international and national normative documents as well as the Register procedures;

.2 development and implementation of procedures for sampling, laboratory testing and water content monitoring as per International Maritime Solid Bulk Cargoes (IMSBC Code), IMO resolution MSC.354(92) and MSC.I/Circ.1454;

.3 sampling, sample recording and preparation of bulk cargo samples. The procedures shall be approved by the Register, comply with the effective edition of the IMSBC Code and provide for liability of a person, involved in sampling and sample preparation, for compliance with applicable procedures and liability of the head of the firm for fulfilment of the sampling and sample preparation procedures by the personnel and assignment of only qualified personnel for the sampling. The sampling documents (reports, certificates) shall be signed by a person having directly performed the sampling;

.4 liability of the firm management and personnel for failure to comply with international and national documents and the Register procedures when carrying out the activities on the expertise of safe bulk cargo carriage by sea;

.5 development and implementation of measures to prevent and settle the conflict of interest;

.6 guarantees of the firm independence from commercial, financial, administrative or other pressures that may affect the quality of the activities performed;

.7 responsibility for impartial decision-making of the firm when performing works/rendering services as well as methods to provide impartiality;

.8 disclosure of information on affiliates of the recognized firm as per antitrust laws of the Russian Federation;

.9 identification of risks related to impartiality during work, elimination and minimization of the specified risks;

.10 assurance of the firm independence from the manufacturers, sellers, executors and purchasers including consumers;

.11 requirements to firm employees regarding the obligation to notify the firm on the previous and actual relations with designers, developers, manufacturers, sellers, product (work/service) operators, or other circumstances, which may result in a potential conflict of interest.

8.3.16 Special requirements for firms engaged in measurements of noise level onboard ships (code 22024000MK).

8.3.16.1 Extent of engagement.

Sound pressure level measurements onboard ships.

8.3.16.2 Supervisor.

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

8.3.16.3 Operators.

The operator shall have the following qualifications:

.1 knowledge in the field of noise, sound measurements and handling of measurement equipment;

.2 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);

.3 at least 1 year's experience, including participation in a minimum of 5 measurement campaigns as an assistant operator;

.4 training concerning the procedures specified in the Code on Noise Levels on board Ships;

.5 be able to document theoretical and practical training onboard in using a sound level meter.

8.3.16.4 Equipment.

8.3.16.4.1 Sound level meters.

Measurement of sound pressure levels shall be carried out using precision integrating sound level meters. Such meters shall be manufactured to IEC 61672-1(2002-05) "Recommendation for Sound Level Meters", as amended, type/class 1 standard as applicable, or to an equivalent standard acceptable to the Administration. At that sound level meters class/type 1 manufactured according to IEC 651/IEC 804 may be used until 1 July 2016.

8.3.16.4.2 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) "Octave-Band and Fractional-Octave-Band Filters", as amended, or an equivalent standard acceptable to the Administration.

8.3.16.4.3 Sound calibrator.

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

8.3.16.4.4 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 17025 (2005), as amended. A record with a complete description of the equipment used shall be kept, including a calibration log.

8.3.16.4.5 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.

8.3.16.5 Procedures and instructions.

8.3.16.5.1 The firm shall have documented procedures and instructions to carry out 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.

8.3.16.5.2 The supplier shall have access to the following documents:

- .1 SOLAS 1988, as amended (regulation II-1/3-12);
- .2 IMO resolution A.468(XII) and IMO resolution MSC.337(91) "Code on Noise Levels on Board Ships";
- .3 IMO resolution A.343(IX) "Recommendation on Methods of Measuring Noise Levels at Listening Posts";
- .4 the Register rules and guidelines.

8.3.16.6 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 the Code on Noise Levels on Board Ships and may conform to any other specific requirement of the society (refer to IMO resolution MSC.337(91)).

8.3.16.7 Verification.

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

8.3.17 Requirements for firms engaged in tightness testing of primary and secondary barriers of gas carriers with membrane cargo containment systems for ships in service (code 22025000MK).

8.3.17.1 Extent of engagement.

.1 global vacuum testing of primary and secondary barriers;

.2 acoustic emission (AE) testing;

.3 thermographic testing.

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

8.3.17.2.1 Testing procedures.

Testing shall be carried out in accordance with cargo containment system designer's procedures as approved by the Register.

8.3.17.2.2 Authorization.

The supplier shall be authorized by the system designer to carry out the testing.

8.3.17.2.3 Equipment.

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

8.3.17.2.4 Reporting.

The report shall contain the following:

- .1 date of testing;
- .2 identity of test personnel;
- .3 vacuum decay data for each tank;
- .4 summary of test results.

8.3.17.3 Requirements for firms engaged in AE testing.

8.3.17.3.1 Testing procedures.

The firm shall have documented procedures based upon recognized national or international industrial standards to perform ultrasonic leak test using AE 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, signal processing, evaluation and reporting.

Note. The differential pressure during testing shall not exceed the containment system designer's limitations.

8.3.17.3.2 Supervisor.

The responsible supervisor shall be certified to a recognized 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.

8.3.17.3.3 Operators.

The operators carrying out the 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.

8.3.17.3.4 Equipment.

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

8.3.17.3.5 Evaluation of AE testing.

Evaluation of AE testing shall be carried out by the supervisor or individuals certified to a recognized 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.

8.3.17.3.6 Reporting.

The report shall contain the following:

- .1 date of testing;
- .2 supervisor and operator(s) certifications;
- .3 description of time and pressure of each cycle of test;
- .4 list and sketch detailing location of possible defects.

8.3.17.4 Requirements for firms engaged in thermographic testing.

8.3.17.4.1 Testing procedures.

Testing shall be carried out in accordance with the cargo containment system designer's procedures as approved by the Register.

8.3.17.4.2 Authorization — The firm shall be authorized by the system designer to carry out the testing.

8.3.17.4.3 Supervisor.

The responsible supervisor shall be certified to a recognized 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 shall provide evidence that training on Level II or above has been administered by an independent training body centrally certified to ASNT or comparable nationally recognized certification scheme.

8.3.17.4.4 Operators.

The operators carrying out 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 shall 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.

8.3.17.4.5 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 standard (IEC, etc.) with regard to their safety characteristics for the use in hazardous areas (in gas explosive atmosphere), maintained and calibrated in accordance with the manufacturer's recommendations.

8.3.17.4.6 Evaluation of thermographic images shall be carried out by the supervisor or individuals certified to a recognized 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 shall 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.

8.3.17.4.7 Reporting.

The report shall contain the following:

- .1 date of testing;
- .2 supervisor and operator(s) certifications;
- .3 differential pressures of all phases;
- .4 list and sketch detailing location of thermal indications;
- .5 thermographic images of all phases of testing for thermal indications;
- .6 evaluation of thermal images indicating possible leaks.

See Circular 1156c

See Circular 1219c

9 RECOGNITION OF TESTING LABORATORIES

9.1 GENERAL

9.1.1 The requirements of this Section apply to the testing laboratories conducting tests and measurements specified in Table 9.1.1.

9.1.2 Tests of items of the RS technical supervision shall be conducted by the testing laboratories recognized by RS.

9.1.3 The testing laboratory shall meet general requirements listed in Section 7, requirements of 9.2, relevant special requirements of 9.3 and the requirements of Administrations (if any).

9.1.4 Recognition of the testing laboratories by the Register shall be confirmed by the Recognition Certificate of Testing Laboratory (CTLI) issued in accordance with 3.4 — 3.7.

9.1.5 In individual cases, at the RS discretion, tests may be conducted in the testing laboratories not recognized by RS. At that prior to performance of tests, compliance of the testing laboratory with the requirements of Section 7 and requirements of 9.2.1.1, 9.2.2.1, 9.2.2.2, 9.2.4.1, 9.2.4.2, 9.2.5, 9.2.6 shall be verified.

9.1.6 The testing laboratories carrying out activities with code 21003000MK shall comply with the requirements of Section 7, Part I "General Provisions" of the Rules for the Classification Surveys of Ships in Service.

9.2 REQUIREMENTS

9.2.1 Personnel.

9.2.1.1 Personnel of testing laboratory shall have not less than two years of practical training.

9.2.1.2 The testing laboratory shall have documents on its personnel containing the following information:

- .1 functional duties;
- .2 education;
- .3 experience;
- .4 re-training and terms of its validity;
- .5 certification and terms of its performance.

9.2.1.3 The testing laboratory shall have the regular staff of specialists.

9.2.1.4 The testing laboratory shall have and adhere to the plans (schedules) of the following:

Table 9.1.1

Codes	Tests and measurements
21001000	Vibroacoustic measurements and tests
21001100	Physical and chemical measurements and tests
21001101MK	Sampling and check tests (analysis) of anti-fouling system in accordance with AFS Convention
21001200	Fire tests of products and materials
21001300	Electromagnetic measurements and tests:
21001301	electrical measurements and tests
21001302	electromagnetic compatibility (EMC) tests
21001400	Ionizing measurements
21001500	Mechanical measurements and tests
21001600	Radio measurements
21001700	Non-destructive tests
21001800	Optical measurements
21001900	Heat engineering measurements and tests
21002000	Equipment protection tests
21002100	Climatic tests
21002200	Oily water analysis
21002300	Fuel and oil analysis
21002400	Analysis of gaseous emissions from marine diesel engines
21002500	Checking of software and/or performance algorithms of radio and navigational equipment
21002600	Tests of fire-fighting systems and fire-fighting outfit
21002700	Tests and periodical checks of foam concentrates
21002800	Oil product cargo analysis
21002900MK	Sampling and check test (analysis) of ballast water in compliance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention)
21003000MK	Testing of coating systems in accordance with IMO resolution MSC.215(82) and/or MSC.288(87)
21003100	Full-scale tests during survey of onshore facilities:
	GMDSS sea areas A1 and A2;
	NAVTEX service;
	vessel traffic service (VTS)
21004000MK	Testing of bulk cargoes to determine transport performance
21004100	Testing of bulk cargoes to determine transport performance carried out by testing laboratories of the firms having the Recognition Certificate (CII) under code 22023000MK "Expertise of safe carriage of bulk cargoes by sea"

- .1 training and re-training;
- .2 refresher training;
- .3 certification of the personnel with respect to performance of certain tests.

9.2.2 Technique.

9.2.2.1 The technique of testing laboratories shall comply with the testing procedures, according to which tests specified in the RS requirements are conducted for items of technical supervision.

9.2.2.2 Tests shall be conducted in accordance with the relevant testing procedures, including those having regard to the environmental conditions, corresponding to each type of tests in the area indicated in the request. Use shall be made of the following:

- .1 measuring equipment checked (calibrated) in the established order;
- .2 certified testing equipment;
- .3 ancillary equipment;
- .4 references and standard specimens for technical support and measurement assurance of measuring equipment;
- .5 appropriate consumables (chemicals, substances, etc.).

9.2.2.3 The testing laboratory shall have valid contracts for rented measuring and testing equipment.

9.2.2.4 The testing laboratory shall have the lists of the following:

- .1 measuring equipment, including those used for certification of the testing equipment;
- .2 testing and ancillary equipment;
- .3 references and standard equipment.

9.2.2.5 The testing laboratory shall have and adhere to the schedules of the following:

- .1 maintenance of measuring and testing equipment;
- .2 checking (calibration) of measuring equipment;
- .3 certification of testing equipment.

9.2.3 Files of the testing laboratory documents.

9.2.3.1 The testing laboratory shall have the valid normative and technical documents necessary for performance of tests in the area of recognition indicated in the request, including:

- .1 list of activities performed (area of recognition);
- .2 the Quality Manual or another similar document;
- .3 duty regulations;
- .4 operating and maintenance instructions on measuring and testing equipment;
- .5 documents on records keeping and archives maintenance.

9.2.4 Reporting.

9.2.4.1 In addition to the information specified in 7.2.6.1, test reports shall contain the following:

- .1 designation: "Test Report" or "Conclusion";
- .2 name and address of the testing laboratory;
- .3 designation of the testing method with reference to the documents, in accordance with which the tests have been conducted;

- .4 reference to the Sampling Report;
- .5 test results with indication of units of measurements in accordance with the testing procedures;
- .6 indication that the test results are valid only for the products tested;
- .7 entry that the tests have been witnessed by the RS representative.

9.2.4.2 Sampling reports, where applicable, shall contain:

- .1 date of the specimen selection (sampling);
- .2 information that allows for unambiguous identification of specimens (samples) taken;
- .3 place of the specimen selection (sampling);
- .4 information on conditions of the specimen selection (sampling);
- .5 reference to the documents, in accordance with which the specimens have been taken (sampling has been done).

9.2.4.3 Data (documents) confirming performance of tests (sampling reports, test reports, etc.) shall be kept in the testing laboratory for not less than five years under conditions of confidentiality. This requirement shall be established in the documents of the testing laboratory.

9.2.5 Checking and control.

9.2.5.1 The testing laboratory shall do the checking and exercise control over the performance of tests and their results.

9.2.5.2 The personnel of the testing laboratory responsible for checking (control) shall have not less than two years of experience as a performer in the area of activity indicated in the request.

9.2.5.3 The testing laboratory shall conduct check tests in compliance with the area of recognition indicated in the request witnessed by the RS representative.

9.2.6 Conditions of taking, transport and storage of samples.

9.2.6.1 Conditions of taking, transport and storage of samples shall meet the requirements of the testing procedures.

9.2.6.2 The testing laboratory shall identify the samples.

9.3 SPECIAL REQUIREMENTS

9.3.1 Special requirements for testing laboratories engaged in penetrant testing (PT), radiographic testing (RT), ultrasonic testing (UT), magnetic particle testing (MT) of materials, products, weld quality (code 21001700).

9.3.1.1 Non-destructive testing and quality assessment shall be performed by specialists who have passed the appropriate training, have the proper qualification and practical experience in a particular NDT method which shall be documented.

Assessment of the qualification level and certification of personnel involved in non-destructive testing

shall be performed in accordance with requirements of national standards (GOST R ISO 9712) unified with ISO 9712 or EN 473, as well as other requirements recognized by the Register.

Bodies operating certification of persons in non-destructive testing shall comply with the requirements of the international standard ISO/IEC 17024.

9.3.1.2 Reporting.

9.3.1.2.1 The testing laboratory shall have and maintain examination results logs.

9.3.1.2.2 A Statement (Test Report), in addition to the information specified in 9.2.4.1, and examination results logs shall contain:

1 a reference to the RS rules or other normative document as agreed with RHO regarding the use of criteria for assessing the quality of welds at radiographic examination;

2 a reference to normative documents regarding the use of criteria for assessing the quality of welds at ultrasonic examination, dye penetrant examination, and magnetic particle examination;

3 thickness of components at ultrasonic examination and radiographic examination (refer to Part XIV "Welding" of the Rules for the Classification and Construction of Sea-Going Ships);

4 description of defects in accordance with applicable national or international standards.

9.3.1.2.3 Designation of checked lengths for duplicating radiographic examination shall correspond to the designation of the checked lengths used at ultrasonic examination.

9.3.1.3 Files of the testing laboratory documents.

9.3.1.3.1 The testing laboratory shall have instructions on performing assessment of the quality of welds taking into account the RS requirements.

9.3.1.4 The recognition certificates of testing laboratory (CILT) are subject to endorsement not less than once a year.

9.3.2 Special requirements for testing laboratories carrying out fire tests of products and materials (code 21001200).

9.3.2.1 In general, the testing laboratory shall be recognized by the Register. The Recognition Certificate of Testing Laboratory (CILT) is issued to the testing laboratory, carrying out fire tests, by RHO or the RS Branch Offices on behalf of RHO.

Fire tests carried out by the testing laboratories not recognized by RS shall be witnessed by the RS surveyor.

9.3.2.2 Legal status.

9.3.2.2.1 The testing laboratory, as its routine activity, carries out checks and tests identical to those in the relevant parts of the International Code for Application of Fire Test Procedures (FTP Code) (refer to 1.2, Part VI "Fire Protection" of the Rules for the Classification and Construction of Sea-Going Ships) or similar to them.

9.3.2.2.2 The testing laboratory shall not belong to the manufacturer, seller or supplier of the product/material to be tested and shall not be under their control.

9.3.2.3 Facilities.

9.3.2.3.1 The testing laboratory has access to arrangements, equipment, personnel and calibrated instrumentation needed for checks and tests performance.

9.3.2.4 Checking and control.

9.3.2.4.1 The testing laboratory shall use the quality control system being audited by competent bodies.

9.3.3 Special requirements for testing laboratories carrying out tests of fire-fighting systems and fire-fighting outfit (code 21002600).

9.3.3.1 Facilities.

9.3.3.1.1 The testing laboratory facilities shall be consistent with the test procedures specified in applicable documents mentioned in Chapter 4.3, Part IV "Technical Supervision during Manufacture of Products".

9.3.4 Special requirements for testing laboratories carrying out tests and periodical checks of foam concentrates (code 21002700).

9.3.4.1 Facilities.

9.3.4.1.1 The testing laboratory facilities shall be consistent with the test procedures specified in the guidelines for performance and testing criteria and surveys of foam concentrates (refer to IMO circulars MSC.1/Circ.1312, MSC/Circ.670, MSC/Circ.798).

9.3.5 Special requirements for the testing laboratories carrying out sampling and check tests (analysis) of anti-fouling system in accordance with AFS Convention (code 21001101MK).

9.3.5.1 Facilities.

9.3.5.1.1 The testing laboratory facilities shall be consistent with the procedures for sampling and check tests (analysis) of anti-fouling system specified in IMO resolution MEPC.104(49) "Guidelines for Brief Sampling of Anti-Fouling Systems on Ships".

9.3.6 Special requirements for the testing laboratories carrying out oily water analysis (code 21002200).

9.3.6.1 Legal status.

9.3.6.1.1 While carrying out oily water analysis the testing laboratory with the status of the legal entity shall be independent of the parties interested in the analysis results.

9.3.6.1.2 The testing laboratory carrying out analysis during tests of equipment, systems and arrangements for the prevention of pollution by oily water shall not belong to the manufacturer, seller or supplier and shall not be under their control.

9.3.6.1.3 The testing laboratory shall bear responsibility for the impartiality and objectivity of the oily water analysis results.

9.3.6.2 Technique.

9.3.6.2.1 The testing laboratory technique shall comply with the methods of oily water analysis prescribed by the international and national documents regarding the environment pollution prevention (IMO resolutions MEPC.60(33), MEPC.107(49), etc.).

In some cases on agreement with RS provisional application of other time-tested methods and relevant

measuring and testing equipment is allowed. Meanwhile, the analysis results shall comply with the requirements of the international documents in respect of the reliability and accuracy.

9.3.6.2.2 Measuring and testing equipment belonging to other firms, organizations or individuals as well as being the property of the testing laboratory shall be identified and registered in the documents of the testing laboratory (passport, record sheet or card).

9.3.6.3 Files of the testing laboratory documents.

9.3.6.3.1 The testing laboratory shall have instructions on the procedure of sampling, testing, issue of testing results and normative documentation on oily water analysis (bilge water, dirty ballast and flushing water).

9.3.7 Special requirements for the testing laboratories carrying out fuel and oil analysis (code 21002300), oil product cargo analysis (code 21002800).

9.3.7.1 Legal status.

9.3.7.1.1 While carrying out fuel, oil and oil product cargo analysis the testing laboratory with the status of the legal entity shall be independent of the parties interested in the analysis results.

9.3.7.1.2 The testing laboratory shall bear responsibility for the impartiality and objectivity of the results of fuel, oil and oil product cargo analysis.

9.3.7.2 Personnel.

9.3.7.2.1 Besides the relevant qualification, training, experience and satisfactory knowledge in respect of the analysis carried out, the personnel responsible for the contents of the protocols (reports, conclusions) on the analysis results shall have necessary knowledge as regards:

.1 possible consequences of the onboard use of fuel and oil of degraded quality (not complying with the relevant technical specifications, standards) and of the transport of oil product cargo with inappropriate characteristics;

.2 possible reasons for change of physical and chemical properties of the oil used in machinery and equipment in operation.

9.3.7.3 Technique.

9.3.7.3.1 The testing laboratory technique shall provide for laboratory testing and quick analysis to monitor quality characteristics of oil products within the area of recognition indicated in the request.

The testing laboratory shall be equipped with its own measuring and testing equipment providing for the required types of fuel, oil and oil product cargo analysis:

.1 bunker oil;

.2 new oil loaded onboard;

.3 oil used in machinery and equipment in operation, to evaluate their fitness for use against defect criteria and to assess technical condition of the ship items within survey systems on the basis of condition monitoring.

9.3.7.3.2 The testing laboratory technique shall provide for evaluation of at least the following quality characteristics of oil products.

9.3.7.3.2.1 For bunker oil:

.1 density;

.2 viscosity;

.3 sulphur fraction of total mass;

.4 water content;

.5 ash content;

.6 flashpoint;

.7 chilling point;

.8 coking ability;

.9 mechanical impurities content;

.10 vanadium, aluminium, silicon contents.

9.3.7.3.2.2 For new lubricating oil:

.1 flashpoint;

.2 viscosity;

.3 water content;

.4 alkali neutralization number;

.5 insoluble residue content.

9.3.7.3.2.3 For new hydraulic oil:

.1 viscosity;

.2 water content;

.3 acid number.

9.3.7.3.2.4 For lubricating and hydraulic oil used in machinery and equipment in operation:

.1 physical and chemical properties indicating change of the quality of analysed oils and technical condition of the ship technical means (usually measured by the monitoring system);

.2 wear debris.

9.3.7.3.2.5 For lubricating oil used in propeller and stern tube shafts in operation:

.1 water content;

.2 chlorides content;

.3 content of bearing metal particles;

.4 oil aging (resistance to oxidation).

9.3.7.3.3 Measuring and testing equipment belonging to other firms, organizations or individuals as well as being the property of the testing laboratory shall be identified and registered in the documents of the testing laboratory (passport, record sheet or card).

9.3.7.4 Files of the testing laboratory documents.

9.3.7.4.1 The testing laboratory shall have instructions on the procedure of sampling, testing, issue of testing results and normative documentation on fuel, oil and oil product cargo analysis.

9.3.7.5 Reporting.

9.3.7.5.1 The testing laboratory shall have and maintain the analysis results logs.

9.3.7.5.2 Records (conclusions, test protocols and results logs) on analysis of test samples of bunker oil and new oil loaded onboard shall contain values of the physical and chemical properties specified in passports (delivery notes) for ordered fuel and oil.

9.3.7.5.3 The testing laboratory shall immediately notify the customer of each case of the bunker oil properties non-compliance with the requirements of

regulations 14 and 18 of Annex VI to MARPOL 73/78 identified within the scope of the analysis carried out.

9.3.8 Special requirements for testing laboratories carrying out sampling and check test (analysis) of ballast water in accordance with International Convention for the Control and Management of Ship's Ballast Water and Sediments, 2004 (BWM Convention) (code 21002900MK).

9.3.8.1 Technique.

9.3.8.1.1 The testing laboratories shall be consistent with methods for sampling and analysis of ballast water, as specified in IMO resolution MEPC.173(58) and MEPC.174(58).

9.3.8.1.2 The analysis results shall comply with the requirements of the BWM Convention.

9.3.8.1.3 The testing laboratories technique shall enable evaluation of the following quality characteristics of the ballast water at least.

9.3.8.1.3.1 Quantity of viable organisms:

- .1 per cubic meter;
- .2 per milliliter.

9.3.8.1.3.2 Indicator microbes content:

- .1 toxicogenic *Vibrio cholerae*;
- .2 *Escherichia coli*;
- .3 intestinal *Enterococci*.

9.3.9 Special requirements for testing laboratories carrying out testing of bulk cargoes to determine transport performance (code 21004000MK).

9.3.9.1 Sample preparation and testing procedures shall comply with the requirements of the IMSBC Code, IMO resolution MSC.354(92) and IMO circular MSC.1/Circ.1454, and shall be approved by the Register.

9.3.9.2 A testing laboratory shall keep and store for a period of 10 years and submit to the Register the following documents both in Russian and English:

.1 training record books for the personnel involved in sample preparation and testing;

.2 reports on internal review to ensure that the procedures for sample preparation and testing are applied correctly;

.3 record books of spot samples and forms where the traceability of the subsample and representative sample is ensured;

.4 test reports;

.5 record books for maintenance, calibration and testing of any testing equipment;

.6 reports on deviations from the approved sample preparation and testing procedures and any modification to the procedures.

9.3.9.3 The testing laboratory shall provide identification and recording of representative samples; identification, recording and storage of test samples prepared from representative samples. Storage conditions shall ensure sample property maintenance so as to enable carrying out of check tests. The minimum sample storage period shall be as follows:

.1 for representative samples for flow moisture tests — at least 9 months;

.2 for representative samples for testing for moisture content — prior to ship discharge but not less than 3 months;

.3 for representative samples for other tests (for determination of the particle size distribution, stowage factor, etc.) — prior to ship discharge but not less than 1 month.

9.3.10 Special requirements for testing laboratories carrying out full-scale tests during survey of onshore facilities: GMDSS sea areas A1 and A2; NAVTEX service; vessel traffic service (VTS) (code 21003100).

9.3.10.1 Testing procedure shall be submitted for the Register approval as part of the testing laboratory documentation.

9.3.10.2 Testing procedure shall include, at least, the following information:

.1 appropriate identification;

.2 scope of application;

.3 description of an item subject to testing or calibration;

.4 parameters and quantitative indices and ranges to be specified;

.5 facilities and equipment, including requirements to technical specifications;

.6 required environmental conditions and stabilization time;

.7 procedures, including:

checks prior to commencement of works;

checks of proper functioning and, where required, calibration and adjustment of the equipment prior to use; method of observations and results recording;

safety measures to be met;

.8 criteria and/or requirements for acceptance or rejection of results;

.9 data to be recorded, method of analysis and data reporting form.

9.3.10.3 Prior to test, the testing laboratory shall develop the program of onshore facility tests. The test program shall comply with the approved testing procedure and consider the technical specification requirements for full-scale tests and environmental conditions, in which the tests are carried out. The test program shall be approved by an authorized body and agreed with the customer.

9.3.10.4 The testing laboratory shall have the facilities necessary for testing in accordance with the approved testing procedure.

9.3.10.5 Measuring and testing equipment being the property of the testing laboratory as well as belonging to other firms, organizations or individuals, shall be calibrated in the established order, identified and registered in the testing laboratory passport.

9.3.10.6 In case the software is used to control measuring and testing equipment, to accumulate, pro-

See Circular
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cess, recording and storage of the test data, it shall be detailed, identified and submitted for the Register approval as part of the testing laboratory documentation. The software for the data storage shall be backed up and protected against an unauthorized access.

9.3.10.7 Possible adjustment of the testing and calibration equipment, including the hardware and software, which may invalidate the test results, shall be eliminated.

9.3.10.8. The testing laboratory personnel shall consist of, at least, 3 specialists with higher professional education proved by a nationally recognized document, having, at least, 3 years of practical experience in testing specified by the applicant.

9.3.10.9 In case the testing laboratory subcontracts another laboratory, the latter shall have the Recognition Certificate issued by the Register. The area of recognition of the testing laboratory-subcontractor shall correspond to code 21003100. The contract with the laboratory-subcontractor shall be concluded on a long-term basis and included in the testing laboratory documentation.

9.3.10.10 The testing laboratory shall not belong to the firms-owners of onshore facilities as well as to the manufacturers, suppliers of the equipment used in construction of onshore facilities, and shall not be under their control. The testing laboratory being part of the organization carrying out, in addition, the activities other than testing, shall demonstrate that the duties of the organization top management, participating or influencing the testing laboratory activities, shall be clearly defined to eliminate the potential conflicts of interest. The testing laboratory shall be capable of demonstrating its impartiality and that neither the testing laboratory itself, nor its employees do not experience commercial or other pressures to compromise their technical solutions.

9.3.10.11 The Test Report shall comply with the approved testing program and contain the list of the measuring and testing equipment applied during the tests.

9.3.11 Special requirements for firms engaged in testing of coating systems in accordance with IMO resolution MSC.215(82), as amended, and IACS UI SC223 and/or IMO resolution MSC.288(87), as amended (code 21003000MK).

9.3.11.1 Extent of engagement — testing of coatings systems according to IMO resolution MSC.215(82), as corrected by IMO circular MSC.1/Circ.1381 and amended by IMO resolution MSC.341(91) and IACS UI SC223 and/or IMO resolution MSC.288(87), as corrected by IMO circular MSC.1/Circ.1381 and amended by IMO resolution MSC.341(91).

9.3.11.2 The testing laboratory shall provide to the Register the following information:

.1 a detailed list of the laboratory test equipment for the coating approval according to IMO resolution MSC.215(82) as amended and/or IMO resolution MSC.288(87) as amended;

.2 a detailed list of reference documents comprising a minimum those referred to in IMO resolution MSC.215(82) as amended and/or IMO resolution MSC.288(87) as amended for the coating approval;

.3 details of test panel preparation, procedure of test panel identification, coating application, test procedures and a sample test report;

.4 details of exposure method and site for weathering primed test panels;

.5 a sample daily or weekly log/form for recording test conditions and observations including unforeseen interruption of the exposure cycle with corrective actions;

.6 details of any sub-contracting agreements, if applicable;

.7 comparison test reports with an approved coating system or laboratory if available.

9.3.11.3 Reporting.

Reference shall be made to the following IACS recommendations:

Recommendation No. 101 "Model Report for IMO Resolution MSC.215(82) Annex 1 "Test Procedures for Coating Qualification"";

Recommendation No 102 "IACS Model Report for IMO Resolution MSC.215(82) Annex 1 "Test Procedures for Coating Qualification", Section 1.7 — Cross-over Test".

9.3.11.4 Audit of the test laboratory shall be based on the requirements of this Section and the standards listed in IMO resolution MSC.215(82) as amended and/or IMO resolution MSC.288(87) as amended for the coating approval.

9.3.11.5 For the testing laboratories engaged in testing of coating systems in accordance with IMO resolution MSC.215(82), as amended, and IACS UI SC223 and/or IMO resolution MSC.288(87), as amended, the definitions given in 8.1.1.1 shall be used.

9.3.12 Special requirements for testing laboratories of the firms having the Recognition Certificate (CII) under code 22023000MK "Expertise of safe carriage of bulk cargoes by sea" and carrying out tests of bulk cargoes to determine transport performance (code 21004100MK).

9.3.12.1 Testing laboratory is a structural unit of the firm having the Recognition Certificate (CII) under code 22023000MK "Expertise of safe carriage of bulk cargoes by sea".

9.3.12.2 Sample preparation and testing procedures shall comply with the requirements of IMSBC Code, IMO resolution MSC.354(92) and IMO circular MSC.1/Circ.1454, and shall be approved by the Register.

9.3.12.3 A testing laboratory shall keep and store for a period of 10 years and submit to the Register the following documents both in Russian and English:

.1 training record books for the personnel involved in sample preparation and testing;

.2 reports on internal review to ensure that the procedures for sample preparation and testing are applied correctly;

.3 record books of spot samples and forms where the traceability of the subsample and representative sample is ensured;

.4 test reports;

.5 record books for maintenance, calibration and testing of any testing equipment;

.6 reports on deviations from the approved sample preparation and testing procedures and any modification to the procedures.

9.3.12.4 The testing laboratory shall provide identification and recording of representative samples; identi-

fication, recording and storage of test samples prepared from representative samples. Storage conditions shall ensure sample property maintenance so as to enable carrying out of check tests. The minimum sample storage period shall be as follows:

.1 for representative samples for flow moisture tests — at least 9 months;

.2 for representative samples for testing for moisture content — prior to ship discharge but not less than 3 months;

.3 for representative samples for other tests (for determination of the particle size distribution, stowage factor, etc.) — prior to ship discharge but not less than 1 month.

See Circular 1170c

10 RECOGNITION OF MANUFACTURERS

10.1 GENERAL

10.1.1 The requirements of this Section apply to the manufacturers of materials and products listed in the RS Nomenclature.

10.1.2 The firms (manufacturers) manufacturing materials and products in compliance with the requirements of 1.3.1.3, Part X "Boilers, Heat Exchangers and Pressure vessels" and Part XIII "Materials" of the Rules for the Classification and Construction of Sea-Going Ships shall be recognized by the Register. In other cases, manufacturers may be recognized on the voluntary basis.

10.1.3 The manufacturer shall meet general requirements listed in Section 7, requirements of 10.2 and requirements of the Administrations (if any).

10.1.4 Recognition of the manufacturer by the Register is confirmed by the Recognition Certificate for Manufacturer (СПИ), which is issued in compliance with 3.4 — 3.7.

10.2 REQUIREMENTS

10.2.1 Personnel.

10.2.1.1 The manufacturer shall have documents on the personnel containing the following information:

- .1 functional duties;
- .2 re-training and its terms of validity;
- .3 certification and terms of its performance.

10.2.1.2 The manufacturer shall have the regular staff of specialists.

10.2.1.3 The manufacturer shall have and adhere to the plans (schedules) of the following:

- .1 training and re-training of the personnel;
- .2 refresher training of the personnel;
- .3 certification of the personnel with respect to performance of certain activities.

10.2.2 Technique.

10.2.2.1 The manufacturer shall have the lists of equipment, premises and facilities necessary for performance of activity in the area indicated in the request.

10.2.2.2 The manufacturer shall have and adhere to the schedules of maintenance of equipment and instrumentation.

10.2.3 Measurement assurance.

10.2.3.1 When tests of materials and products shall be conducted in a testing laboratory, this laboratory shall meet the requirements of Section 9.

10.2.4 Files of the manufacturer's documents.

10.2.4.1 The manufacturer shall have the valid normative and technical documents necessary for performance of activities in the area indicated in the request, including:

- .1 list of activities performed (area of activity);
- .2 operating and maintenance documentation on equipment;
- .3 operating and maintenance documentation on measuring and testing equipment;
- .4 duty regulations;
- .5 documents on records keeping and archives maintenance.

See Circular 1189c

11 AUDITS OF FIRMS

11.1 GENERAL

11.1.1 The requirements of this Section apply to the firms performing the activity in connection with items of the RS technical supervision, the kinds of which are specified in Table 11.1.1.

11.1.2 Where technical supervision is conducted in the firms engaged in the activity with codes 22009000, 22013000, 22014000, 22014001, 22014002, 22014004, 22017000, 22017010, 22017020, 22020000, 22024000, these firms shall be audited by RS for compliance with the requirements in Section 7, relevant special requirements in 11.3, and requirements of the Administration (if any).

In future, the Register reserves the right to audit the firm for compliance with the requirements in Section 7, relevant special requirements in 11.3, where necessary.

In addition to requirements in Section 7, the firm may be audited on a voluntary basis against the requirements in 11.2.

11.1.3 Audits of design offices engaged in the activity with code 22018000 are only conducted on a voluntary basis. In this case, the design office shall meet the general requirements listed in Section 7 (except for 7.2.4, 7.2.5.1.2, 7.2.6.1.8, 7.2.6.1.10, 7.2.6.1.12), the requirements of 11.2 (except for 11.2.3, 11.2.4.1.3), special requirements and the Administrations' requirements (if any).

11.1.4 Compliance of the firm with the requirements of Section 7, requirements of 11.2, relevant special requirements and Administrations' requirements (if any) is confirmed by the Certificate of Firm Conformity (CCIF), which is issued in accordance with 3.4 — 3.7. In case the Certificate of Firm Conformity (CCIF) is available, the audits are conducted in accordance with the conditions for its issue.

11.1.5 The firm shall demonstrate that its activity is performed in the area indicated in the request.

11.2 REQUIREMENTS

11.2.1 Personnel.

11.2.1.1 The firm shall have documents on the personnel containing the following information:

- .1 functional duties;
- .2 professional and special training and its terms of validity;
- .3 certification and terms of its performance (if necessary).

11.2.1.2 The firm shall have the regular staff of specialists.

11.2.1.3 The firm shall have and adhere to the plans (schedules) of the following:

- .1 training and re-training of the personnel;
- .2 refresher training of the personnel;
- .3 certification of the personnel with respect to certain activities.

11.2.2 Technique.

11.2.2.1 The firm shall have the lists of equipment, premises and facilities necessary for performance of activity in the area indicated in the request.

11.2.2.2 The firm shall have and adhere to the schedules of maintenance of equipment and facilities.

11.2.3 Measurement assurance.

11.2.3.1 The firm shall have the lists of the following:

- .1 measuring equipment, including those for certification of testing equipment;
- .2 testing and ancillary equipment;
- .3 references and standard specimens.

11.2.3.2 The firm shall have and adhere to the schedules of the following:

- .1 maintenance of measuring and testing equipment;
- .2 testing (calibration) of measuring equipment;
- .3 certification of testing equipment.

11.2.4 Files of the firm documents.

11.2.4.1 The firm shall have the valid normative and technical documents necessary for performance of activity in the area indicated in the request, including:

Table 11.1.1

Code	Kinds of activity
22009000	Diagnostics of devices, installations, machinery, equipment, hull structures and other items of technical supervision
22013000	Shore-based centre for damage stability and residual structural strength calculation
22014000	Conversion, modernization and repair of items of technical supervision (ships, hull structures, ship equipment, products, etc.)
22014001	Installation and commissioning of electrical and automation equipment
22014002	Maintenance and repair of electrical and automation equipment
22014004	Constructions of ships, including mobile offshore drilling units (MODU) and fixed offshore platforms (FOP)
22017000	Theoretical training and welders' practical qualification tests (at certification centers)
22017010	Training and certification of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector
22017020	Training and examination of coating inspectors
22018000	Design
22020000	Inclining test and light-weight check of ships
22024000	Manufacture of NSSS equipment of 1, 2 and 3 safety classes

See
Circular
1177c

See Circular
1177c

- .1 list of activities performed (area of activity);
- .2 operating and maintenance documentation on equipment;
- .3 operating and maintenance documentation on measuring and testing equipment;
- .4 duty regulations;
- .5 documents on records keeping and archives maintenance.

11.3 SPECIAL REQUIREMENTS

11.3.1 Special requirements for the firms that perform activity "Training and examination of coating inspectors" (code 22017020) are specified in 3.2.9.3.1.1 — 3.2.9.3.1.3, Part III "Technical Supervision during Manufacture of Materials".

11.3.2 Special requirements for the firms that perform activity "Training and certification of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector" (code 22017010).

11.3.2.1 Legal status.

11.3.2.1.1 The firm shall have documents confirming its competence in the kind of activity indicated in the request, issued by an organization authorized in accordance with the current legislation.

11.3.2.1.2 The firm shall be guided in its activity by the requirements of ISO/IEC 17024 "Conformity assessment — General requirements for bodies operating certification of persons".

11.3.2.2 Personnel.

11.3.2.2.1 The firm shall have documents on the personnel containing the following information:

- .1 full name;
- .2 education;
- .3 qualification level according to EN 473 or ISO 9712 or a corresponding level in the national system;
- .4 number and date of issue of a certificate according to EN 473 or ISO 9712 or to a corresponding document in the national system;
- .5 non-destructive examination sector(s);
- .6 functional duties;
- .7 working experience in methods and sectors of non-destructive examination.

11.3.2.2.2 The members of the examination board shall have qualification Level III according to EN 473 or ISO 9712 or, a corresponding level in the national system.

11.3.2.2.3 Place of work of members of the examination board shall be specified in addition to information given in 11.3.3.2.1.

11.3.2.2.4 The firm shall have and adhere to the personnel training, re-training and certification programmes.

11.3.2.2.5 The firm shall have and adhere to plans (schedules) of:

- .1 training and re-training of the personnel;
- .2 refresher training of the personnel;
- .3 certification of the personnel with respect to performance of certain activities.

11.3.2.3 Technique.

11.3.2.3.1 The firm shall have examination samples as regards non-destructive examination, in accordance with items of the firm area of activity.

11.3.2.4 Measurement assurance.

11.3.2.4.1 Measurements shall be performed in the testing laboratory complying with the requirements of Section 9.

11.3.2.4.2 The testing laboratory shall be authorized to perform measurements in accordance with the current legislation.

11.3.2.5 Files of the firm documents.

11.3.2.5.1 The firm shall have programs for training and certification of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector and sets of examination questions by the following topics:

.1 main information on the items of examination, their production technology, repair, operating conditions (cargo handling gear, MODU, FOP, sea-going ships, ships of river-sea navigation, river ships, pipelines, heat exchangers, welded joint connections of structural elements, welding materials);

.2 materials applied in items, non-destructive examination methods;

.3 requirements of the RS rules for the hull structure of ships, MODU, FOP etc. (ship types and their structural particulars, name and designation of ship's hull members etc.);

.4 RS requirements for use and interpretation of results of thickness measurement on ships (ultrasonic examination) (normative base, types of wear and methods of their identification, norms of wear, preparation of reports on thickness measurement, preparation of items for the examination, safety precautions during works).

11.3.2.5.2 The firm shall have examination samples list as regards thickness measurement on ships (ultrasonic examination) with passports issued for every examination sample in accordance with EN 473 or a corresponding document in the national system.

11.3.2.5.3 The firm shall have the valid normative and technical documents necessary for performance of activity in the area indicated in the request, including:

- .1 list of activities performed (area of activity);
- .2 the Quality Manual or a similar document;
- .3 description of process for the training and certification of personnel for non-destructive examination;
- .4 operating and maintenance documentation on technical equipment;

.5 operating and maintenance documentation on measuring and testing equipment;

.6 duty regulations;

.7 documents on records keeping and archives maintenance.

11.3.2.6 Reporting.

11.3.2.6.1 In addition to the information specified in 7.2.6.1, reports on the results of activity performed, shall contain:

.1 information on trainers;

.2 information on members of the examination board;

.3 the programs for training of personnel for thickness measurement on ships (ultrasonic examination) in shipbuilding and shiprepair sector;

.4 list of sets of examination questions including shipbuilding and shiprepair sector;

.5 the examination samples list for shipbuilding and shiprepair sector;

.6 information on trainees.

11.3.2.7 Checking and control.

11.3.2.7.1 Personnel of the firm responsible for the checking (control) shall have qualification Level II or III

according to EN 473 or ISO 9712 or a corresponding level in the national system.

11.3.2.7.2 The firm shall conduct control checks in the area indicated in the request witnessed by the RS representative.

11.3.3 Special requirements for the firms that perform activity "Manufacture of NSSS equipment of 1, 2 and 3 safety classes" (code 22024000).

11.3.3.1 Legal status.

11.3.3.1.1 The firm shall have a license of the state safety regulatory body in the field of nuclear energy use to perform the activity "Design and manufacture of nuclear plant equipment" as provided by applicable law.

11.3.3.2 File of the firm documents.

11.3.3.2.1 The firm shall have and maintain the procedures for development and agreement of the quality plans. The recommended content of the quality plan is given in Appendix 1 to federal codes and rules NP-071-06 "Regulations for Assessment of Conformity of Equipment, Materials and Semi-Finished Products to be Delivered to Nuclear Facilities".

See Circular 1177c

12 TECHNICAL SUPERVISION AT THE FIRM (MANUFACTURER)

12.1 The Register performs technical supervision at the firm (manufacturer) on the basis of the contract or request on technical supervision (refer to Section 4).

When concluding the contract the firm (manufacturer) shall be audited for conformity with the requirements of Sections 10 or 11. Where deemed necessary, check tests of the firm (manufacturer) products may be required.

In performing technical supervision on a single request at the firm (manufacturer), fulfillment of the requirements of 7.2.2.1, 7.2.3, 7.2.4, 7.2.5, 7.2.7, 7.2.8 regarding the production process of the item of technical supervision shall be preliminarily verified.

In compliance with the provisions of Sections 10 or 11, the Recognition Certificate for Manufacturer (CPII) or the Certificate of Firm Conformity (CCFI) may be issued to the firm (manufacturer). The firm (manufacturer) shall be regularly audited for compliance with the requirements of Sections 10 or 11 within the terms agreed upon with the Register, which are established when the contract is concluded; in case the Recognition Certificate for Manufacturer (CPII) or Certificate of Firm Conformity (CCFI) is available, the audits are carried out in accordance with the conditions of their issuance.

12.2 Before commencement of the technical supervision the firm (manufacturer) shall draw up a list of the items of technical supervision in order to specify the scope and procedure of the item surveys and tests of the items of the Register technical supervision. The list shall be based on the requirements of the RS rules and these Rules and shall be agreed upon with the RS Branch Office. The items of technical supervision, detailed technical documentation on manufacture of the material or product, or construction of the ship, surveys and tests to be performed in the course of technical supervision, their procedure, as well as the documents to be issued and a necessity for branding shall be indicated therein.

12.3 The items of technical supervision are generally surveyed by the Register at the final stage of production (finished products) after acceptance of the products by the firm (manufacturer) technical control body and issue of the appropriate documents.

In separate cases, where it is motivated by the production process and/or design of the product, at the discretion of the Register, surveys may be performed on a step-by-step basis and simultaneously with the manufacturer's control.

Surveys at the intermediate stages of production of the items of technical supervision are carried out in the cases prescribed by the Register after completion of manufacturer's functional control or at the discretion of the Register, if motivated by the particular conditions of production.

12.4 The Register may require incoming check of materials and component parts at the firm (manufacturer), if it is found that they do not meet the RS requirements, or, if they are used, the items of technical supervision will not meet those requirements. In case of unsatisfactory results of the incoming check use of such materials is not allowed, regardless of availability of the certificates and other documents certifying their conformity with the RS requirements.

12.5 In the course of technical supervision at the firm (manufacturer) the Register checks the maintenance of the conditions, under which firms (manufacturers) and laboratories have been recognized and/or the contract on technical supervision concluded.

12.6 In carrying out technical supervision the Register may allow deviations from the approved technical documentation only within its authorities.

12.7 The firm (manufacturer) shall provide all the conditions necessary for the Register to carry out the technical supervision at the firm (manufacturer), namely:

- to present the required technical documentation, in particular, manufacturer's documents on quality control of the products;

- to prepare the items of technical supervision for survey in the scope required;

- to provide for safety of surveys;

- to provide for availability of the officials authorized to present the items of technical supervision for surveys and tests;

- to timely inform the Register of the time and place of surveys and tests of the items of technical supervision.

Where the conditions required for performance of surveys are not fulfilled by the firm (manufacturer), the Register has the right to refuse to carry out surveys or to witness tests.

12.8 Upon satisfactory results of surveys and tests, the Register issues the appropriate documents for the items of technical supervision and puts the brands in the prescribed cases (refer to Sections 3, 4 and Appendices 1, 2).

13 TECHNICAL SUPERVISION AT THE SHIPYARD DURING CONSTRUCTION OF SHIPS

13.1 Technical supervision during construction of ships is performed on the basis of the contract signed between the Register and the shipyard (refer to Section 4).

For the purpose of technical supervision the shipyard is audited for conformity with the requirements of Section 11. Based on the audit results, the Certificate of Firm Conformity (CCF) (refer to Section 11) may be issued to the shipyard. In case the Certificate of Firm Conformity (CCF) is available, the audits are conducted in accordance with the conditions of its issuance.

Construction facilities of the shipyard and the shipyard subcontractor companies performing manufacture of hull structures and coating application at their own facilities or at other remote locations and where the technical supervision will be carried out during construction of ships/series of ships, shall be reviewed in accordance with the provisions of 2.6 (considering 2.3) of the Guidelines on Technical Supervision of Ships under Construction (hereinafter referred to as "the Guidelines").

13.2 Scope and procedure of the technical supervision, types of checks, tests and control are determined according to the Guidelines and indicated in the Inspection and Test Plan (the List of Items of Technical Supervision (hereinafter referred to as "the List")).

Along with surveys performed under the List, additional patrols (periodical inspections) shall be conducted (refer to 13.4 and 13.5).

The List is the basic working document used in the course of technical supervision at the shipyard.

13.3 The List shall be developed by the shipyard and agreed upon with the RS Branch Office. The List is compiled in accordance with the provisions of the appropriate sections of the Guidelines for each prototype (single) ship, as well as ships of a series.

13.3.1 The List shall specify hull structure items of technical supervision and hull construction processes, machinery, equipment and outfit, electrical and radio equipment.

The items of technical supervision are also production processes and particular works subject to the RS technical supervision.

The shipyard and the RS Branch Office shall take measures to minimize the number of inspections.

13.3.2 On agreement with the RS Branch Office, use may be made as the List of one or several documents elaborated by the shipyard in accordance with its existing practice, such as the shipyard's standard on submission to RS of hull structures or a list of sections, the NDT Plan, Tank Tightness Test Plan, etc. Shipyard's documents shall contain the data indicated in the List.

The RS Branch Office reserves the right, in justified cases, to demand the agreed List to be updated.

13.3.3 Surveys under the List are performed by the RS surveyor upon submission by the technical control body of the item of technical supervision or completed works together with the documents issued, finally verified by the shipyard and prepared for survey.

The main target of surveys under the List is verifying the compliance of item of technical supervision with the RS requirements. If defects or deficiencies to be eliminated are found, the RS surveyor shall require the item of technical supervision to be submitted repeatedly for survey.

13.3.3.1 The shipyard's documents on the readiness of the item of supervision for survey by the Register according to the List (application form, Inspection report, record book, etc.) shall contain:

- hull number;
- the item of supervision submitted for survey or the scope of the work according to the List;
- numbers of drawings and other technical documentation related to the item of supervision;
- conclusion of the shipyard technical control body on the item quality and its readiness for survey by the Register;
- date and place of the survey.

The above documents shall be signed by a representative of the shipyard technical control body and submitted to the RS surveyor for each survey in accordance with the List. Upon results of survey:

- the remarks, if any, shall be recorded by the RS surveyor in the Inspection report;
- the Inspection report shall be signed by the RS surveyor.

13.3.4 The RS surveyor shall keep records of surveys carried out under the List. The records shall be kept in such a way as to provide traceability of works accepted by the Register.

13.4 In addition to the surveys performed according to the List, the RS surveyor carries out the following patrols (periodical inspections) not associated with the official inspections by the shipyard technical control body: quality of control operations conducted by the shipyard and manufacture of separate parts (components) and structural elements (members), being parts of the items of technical supervision, which are submitted under the List.

In so doing, special attention shall be given to identification of deficiencies and defects, which cannot be revealed in the course of surveys under the List upon completion of the appropriate works.

Patrols may relate to the certain items of technical supervision indicated in the List, to the ship as well as to the production workshop, laboratory, production process, etc. The RS surveyor shall determine periodicity of such patrols depending on the nature of the item of technical supervision, quality of works performed by the shipyard and its subcontractors as well as production conditions.

13.4.1 The results of patrols and the shipyard's notifications of their results are drawn up according to the procedure established by the Register or, on agreement with the RS Branch Office, by the shipyard.

13.5 The RS surveyor may perform surveys not associated with the technical supervision during construction of particular ships, but arising from the RS functions on technical supervision at the manufacturer or prescribed by the RS rules, guidelines and other normative documents, as well as stipulated by the Agreement on classification of ship under construction (form 430.1.6).

13.6 The shipyard shall immediately notify the RS surveyor of all cases where the situations resulting in damage to hull structures, machinery, equipment, floodings and other cases (including emergency) occur during construction of a ship, which can cause diminution of quality or danger of such diminution, replacement of machinery, equipment and outfit.

The RS surveyor performs the survey, places requirements on the shipyard to provide elimination of the defects (or their causes) and agrees the scope and methods for elimination thereof.

13.7 Prior to installation of machinery, arrangements, equipment and outfit the RS surveyor shall check that all items of technical supervision are provided with the documents confirming their production under the RS technical supervision.

13.8 The documents on all amendments allowed by the Register to the RS previously approved (agreed) technical documentation as well as on fulfilment of remarks of the RS surveyor made at the previous stages of the technical supervision shall be submitted to the RS surveyor.

13.9 The RS technical supervision during mooring and sea trials of equipment and the ship aims at checking their conformity with the approved (agreed) technical documentation, the RS rules and standards as well as with the provisions of international conventions applicable to the ship under construction.

13.9.1 The scope of surveys at trials of ships and testing of ship equipment is specified in the appropriate sections of the Guidelines.

13.9.2 Unless other terms of delivery are specified, the shipyard building the ship is responsible for safety during trials and safety of the ship itself.

The shipyard building the ship organizes performance of trials and conditions preventing any influence on trials results as well as ensures compliance with the requirements for safe navigation.

13.9.3 The shipyard building the ship provides all necessary conditions for technical supervision by the RS surveyor in the course of mooring and sea trials of the ship in compliance with the requirements of the applicable RS rules and the Guidelines.

The equipment provided by the shipyard for use during the trials shall be operated in conformity with the technical operation regulations and maintenance instructions.

The RS surveyor is not entitled to operate the equipment himself/herself or interfere with the actions of the attending personnel. In case actions of the personnel may cause an accident or damage to the equipment, the RS surveyor is entitled to demand, via representatives of the technical control body, elimination of violations (up to the refusal to participate in the ongoing tests).

13.9.4 During the testing of the equipment, any works that interfere with the normal conduct of tests or endanger the personnel involved in the tests, shall be stopped. The equipment subjected to the tests and the surrounding area shall be clean, readily accessible; provision shall be made for adequate lighting and ventilation of the spaces.

13.9.5 Mooring and sea trials are conducted according to the approved programme.

13.9.6 The items of technical supervision, which trials results do not meet the requirements of the applicable RS rules or the approved documentation, shall be subjected to repeated trials after elimination of causes of unsatisfactory trials results.

13.9.7 Elimination of defects and repeated trials shall be agreed upon with the RS surveyor. Repeated trials shall not affect further trials or interfere with their safety.

13.9.8 Measurements, which are taken by the technical control body and ascertain that the item of technical supervision is in good working order, shall be processed by the body upon completion of the trials of the item of technical supervision and submitted to the RS surveyor.

In case of satisfactory results the RS surveyor signs the shipyard's document on completion of trials of the items of technical supervision, to which the tables of measurements are appended, where necessary.

13.9.9 An interruption in the trials of items of technical supervision under continuous modes shall be indicated in the test report, and a matter of continuation of the trials and the conditions of their performance (extension of time period and scope) shall be agreed upon with the RS surveyor, having regard to the causes of trials termination.

13.9.10 In case of the second forced interruption of the same continuous testing mode, the tests shall be terminated and the causes eliminated. Then repeated tests shall be conducted in full or extended scope, where necessary. The time for tests performance shall be agreed upon with the RS surveyor.

13.9.11 The items of technical supervision may be installed on board the ship, which have not been totally tested, provided the tests have been carried out under a special programme agreed upon with the Register with subsequent tests according to the programme of mooring and sea trials.

13.9.12 The items of technical supervision shall be submitted for tests upon completion of all installation works and completion of main construction works, which are likely to affect the testing of the item.

13.9.13 The technical control body shall timely inform the RS surveyor of the readiness of the items of technical supervision for trials and of the date of their performance.

13.9.14 Surveys and trials of the item of technical supervision are carried out by the RS surveyor upon acceptance of the item by the technical control body.

13.9.15 Fulfilment of the requirements for certain items of technical supervision, on agreement with the RS Branch Office, may be transferred to the period of the sea trials or some other time, provided these requirements do not interfere with the sea trials or affect the safety of ship navigation and people on board.

13.9.16 In case the ship is not ready for sea trials according to the RS Branch Office, the RS Branch Office, prior to sea trials, shall send a notification addressed to the shipyard which contains the objective justification for such opinion.

13.9.17 In case the RS confirmation of the ship readiness for sea trials is required by port authorities to issue a sea trial permit, the Register may issue an appropriate confirmation, on the shipyard's written inquiry in which preparation the following shall be considered:

.1 confirmation shall be drawn up in an arbitrary form on the RS official letter form (using form 6.3.10 or 3.1.11, or on the letter form upon agreement with the shipyard);

.2 confirmation shall include the statement that in accordance with specific contract on technical super-

vision, all new construction surveys of the Register have been completed and, according to the Register, the ship may be considered ready for sea trials.

13.9.18 Upon completion of the sea trials or tests under operating modes without ship movement, using simulation methods, the RS surveyor informs the shipyard of his/her remarks, which shall be eliminated before the Register issues the ship's documents.

13.10 Satisfactory results of surveys performed under the List, no violation of the RS requirements upon results of the patrols (periodical inspections), mooring and sea trials as well as availability of registration certificates (i.e. documents issued by the flag Administration body of state registration confirming the ship's flag and the owner such as Certificate of the Right to Sail under the State Flag, Certificate of Ownership, Certificate of Ship's Registry and other such documents) submitted to the RS Branch Office shall be the basis for issuing the RS documents to the constructed ship.

13.11 In technical supervision of the prototype ship trials account shall be taken of the following;

.1 the prototype ship trials are carried out under an enhanced programme, including checking of the ship characteristics and determination of the parameters, which can be used for series ships without this checking;

.2 in case a list of arrangements to be made or recommended for use in the following ships of the series is elaborated upon completion of the prototype ship trials, such list shall be agreed upon with the Register;

.3 where deemed necessary, having regard to the purpose of the ship and in case of using prototypes of materials, products, machinery and equipment, the Register may demand operational tests to be carried out according to the programme approved by the Register.

13.12 The technical supervision during construction is considered completed with issue of the report (acts) on survey, on which basis the documents to be issued by the Register to the ship are drawn up.

See
Circular
1182c

14 TECHNICAL SUPERVISION ON BEHALF OF THE REGISTER

See Circular 1177c

14.1 The Register can authorize ACS or another competent body to carry out technical supervision on its behalf.

14.2 Technical supervision on behalf of the Register is performed on the basis of the agreement on mutual substitution and under a particular authorization of the Register or an agreement made between the Register and the organization.

14.3 Where an authorization is given by the Register, items and scope of technical supervision, the procedure of the technical documentation approval, documents to be issued shall be specified. Besides, the procedure of payment for technical supervision services can also be indicated.

14.4 Unless provided otherwise, certificates and other documents issued by the organization in charge of technical supervision on behalf of the Register shall have the following notice: "Under authorization of the Register, No. _____ of _____ 20 ____".

14.5 Unless expressly provided otherwise, technical supervision is performed according to the procedures used by the authorized organization.

14.6 The authorizations for technical supervision are issued by RHO.

14.7 The Register reserves the right to cancel the authorization for technical supervision issued.

15 TECHNICAL SUPERVISION ON BEHALF OF ANOTHER CLASSIFICATION SOCIETY

15.1 Technical supervision on behalf of another classification society is performed by the Register on the basis of the agreement on mutual substitution and under a particular authorization of another classification society or an agreement made between the Register and another classification society.

15.2 When the Register is authorized by another classification society, items and scope of technical supervision, procedure of the technical documentation approval, documents to be issued shall be specified. Besides, the procedure of payment for supervision services can also be indicated.

15.3 Unless expressly provided otherwise, certificates or other documents issued by the Register on behalf

of another classification society shall have the following notice: "Under authorization of (name of another classification society)".

15.4 Unless expressly provided otherwise, technical supervision is performed according to the Register practice.

15.5 Authorization for technical supervision from ACS shall be forwarded to RHO. The RS Branch Offices may render services on behalf of another classification society only upon written confirmation by RHO.

15.6 ACS has the right to cancel authorization for technical supervision issued.

16 ALTERNATIVE CERTIFICATION SCHEME

16.1 DEFINITIONS

16.1.1 The Alternative Certification Scheme is a certification scheme involving a manufacturer (and associated sub-suppliers, if needed) in the inspection, testing and certification of the manufacturer's products.

16.1.2 The Alternative Certification Scheme shall clarify:

- the extent of the required inspection and testing;
- to which extent and under which conditions the manufacturer may perform all or parts of the required inspection and testing without the presence of the RS surveyor when the RS Certificate (C3) is required.

16.1.3 The extent to which the manufacturer is given permission to carry out inspections and testing without the presence of the RS surveyor shall be agreed on a case by case basis, e.g. for a specific product production line or for specific parts.

16.2 SCOPE

16.2.1 The Alternative Certification Scheme may be arranged with product manufacturers and/or sub-suppliers.

16.2.2 The Alternative Certification Scheme with a manufacturer shall define the handling of subcontracted parts (those that require the RS or work Certificates or in any other way are addressed in the RS rules). The sub-supplier may be included in the Alternative Certification Scheme of the manufacturer or have his own Alternative Certification Scheme or deliver parts that are inspected and certified by the Register.

16.2.3 The Alternative Certification Scheme that permits the manufacturer to carry out all or parts of required inspection and testing without the presence of a Surveyor may be arranged in two versions with regard to traceability):

- the Alternative Certification Scheme describes inspection, testing and certification additional to the manufacturer's standard quality control in order to meet the RS rules. The components shall be stamped with a special stamp supplied by the Register or identified as required by the Register;

- the manufacturer has a standard quality control that covers all required inspection, testing and certification in compliance with the RS rules. Traceability and the required type of product document for components or products shall be defined in the Alternative Certification Scheme.

16.3 CONDITIONS

16.3.1 The conditions for the manufacturer to be granted the permission to carry out inspection and testing without the presence of a Surveyor are that:

- .1 the manufacturer has an implemented Quality Management System according to a national or international standard approved by an accredited certification body or recognized by the Register. The availability of the Quality Management System certified for compliance with the current version of ISO 9001 is sufficient to meet this condition;

- .2 the manufacturer has a quality control system, current drawings, and rules and standards that cover the materials and product to be certified;

- .3 the inspection and testing required by the RS rules are either standard procedures in the Quality Management System or those that are specified in detail in the Alternative Certification Scheme;

- .4 RS shall initially ascertain the manufacturer's compliance with the requirements of the Alternative Certification Scheme by verifying the required product and process approvals and performing an initial survey. Follow-up and renewal audits are conducted by the Register on a regular basis to verify that conditions of the Alternative Certification Scheme are continuously maintained by the manufacturer;

- .5 if work certificates (W) or test reports (TR) are found not to fulfil the standards agreed with the Register, the component may not be accepted;

- .6 the Register may carry out unscheduled inspections at the manufacturer and/or subcontractor at its own discretion;

- .7 the manufacturers commit themselves to involve the Register when changes to the design, manufacturing process or testing are made as well as when any major production problems or any major product delivery problems have occurred;

- .8 the Agreement on Survey (CO) issued in compliance with the Alternative Certification Scheme may be renewed subject to the survey. The scope of the renewal survey shall:

- verify the conditions of the Alternative Certification Scheme are still met;

- verify that the current products and processes are appropriately controlled.

16.4 INFORMATION TO BE SUBMITTED

16.4.1 For admission to the Alternative Certification Scheme for a product, the manufacturer shall submit an application enclosing the following documentation:

- .1 product details;
- .2 existing RS approvals of the manufacturer's products as far as required;
- .3 the procedures relevant to the manufacturing process;
- .4 a list of material suppliers with an indication of their approval by the Register (as far as required by the RS rules) and the type of technical supervision in each case;
- .5 quality control plans relevant to the products and relevant components to be certified through the Alternative Certification Scheme. Said plans shall detail the inspections and tests required by the RS rules with an indication of which inspections and tests are delegated to the manufacturer and which shall be done in the presence of the RS surveyor;
- .6 the procedures relevant to the quality control and inspections, their methods, frequency and certification;
- .7 the Quality Management System details;

- .8 list of nominated personnel:
for marking/stamping of products;
for tests and inspection (responsible persons);
for provision of data and information (e.g. declaration of conformity, test reports etc.);
- .9 any other additional documents that the Register may require in order to evaluate the manufacturing processes and product quality control.

16.5 PROCEDURE FOR THE MANUFACTURER SURVEY

16.5.1 Upon satisfactory examination of the complete documentation for application an initial audit shall be carried out at the manufacturer's works. This audit shall verify that the manufacture of the product and the relevant controls are performed in accordance with the documents submitted and are in compliance with the requirements laid down in the Alternative Certification Scheme documentation and the RS rules.

16.5.2 Upon satisfactory outcome of the audits, the extent, duration and conditions of the Alternative Certification Scheme are documented.

See Circular 1143c

APPENDIX 1

See Circular
1189c

NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

See Circular 1177c

See Circular 1187c

1. Nomenclature of Items of the Register Technical Supervision is a list of materials, products, production processes and software regulated by the RS rules.

2. Definitions and abbreviations given in Section 1 of Part I "General Regulations for Technical Supervision" of these Rules are used in the RS Nomenclature, as well as:

P — technical supervision performed directly by the Surveyor;

CTO* (Type Approval Certificate), C* (Certificate filled-in and signed by the Register) or C3* (Certificate filled-in and signed by an official of a manufacturer and drawn up (affirmed) by the Register) — only upon the RHO authorization;

K — branding of items of technical supervision;

K* — branding of each rolled product;

MK — item subject to technical supervision in compliance with the requirements of international conventions.

3. The RS Nomenclature is presented in the form of the table comprising nine columns.

Column 1: "Code of item of technical supervision" — identification code of the material, product, production process or software is indicated, which consists of eight characters grouped in the following groups, each group consisting of two characters:

1st group — part of the RS rules, serial number;

2nd group — groups of machinery, systems, constructions, materials, production processes, software;

3rd group — types of machinery, systems, constructions, materials;

4th group — parts, assemblies;

5th group ("letter group") items of technical supervision covered by the international conventions.

Column 2 "Item of technical supervision" — name of the material, product, production process or software according to the RS rules is indicated.

Columns 3 — 9 "Technical supervision of the Register" — types of technical supervision are indicated: supervision performed by the Surveyor (P), the Certificate (C) is issued;

supervision performed by the firm (manufacturer) technical personnel and RS in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part), the Certificate (C3) is issued;

supervision performed through type approval of the item of technical supervision, Type Approval Certificate (CTO), Type Approval Certificate for Fire-Proof Division (CTPIK), Certificate of Approval for Welding Consumables (COCM), Type Approval Certificate for Computer Program (CTOП), Welding Procedure Approval Test Certificate (COTTIC) are issued.

Column 3 "of the prototype" — necessity of supervision of the prototype performed directly by the Surveyor (P) is indicated.

Column 4 "type approval/recognition of manufacturer" — obligation of type approval of the item of technical supervision is indicated to be confirmed by Type Approval Certificate (CTO), Type Approval Certificate for Fire-Proof Division (CTPIK), Certificate of Approval for Welding Consumables (COCM), Type Approval Certificate for Computer Program (CTOП), Welding Procedure Approval Test Certificate (COTTIC) as well as necessity of recognition of manufacturer to be confirmed by Recognition Certificate for Manufacturer (CPII). In separate cases, at the discretion of the Register, where a single approval is given for the material or product, the Certificate (C) may be issued without issuing the document on type approval, as well on recognition of the manufacturer.

Column 5 "document issued" — the RS document is indicated, which is issued in case of the particular type of supervision providing the minimum permissible control for the particular material or product over fulfillment of the RS requirements.

In separate cases, at the RS discretion, types of supervision may be changed by RS.

Column 6 "branding" — obligation of branding of items of technical supervision in compliance with the Instructions on Branding of Items of the Register Technical Supervision (refer to Appendix 2) is indicated.

Columns 7, 8, 9 "installation, application", "mooring trials", "sea trials" — necessity of technical supervision during construction of ships performed directly by the Surveyor is indicated.

4. RS Nomenclature contains the following sections:

01000000 Hull

02000000MK Life-saving appliances

03000000 Arrangements, equipment, outfit

03000000MK Signal means

04000000MK Radio equipment

05000000MK Navigational equipment

06000000 Fire protection

07000000 Machinery installations

08000000 Systems and piping

09000000 Machinery

10000000 Boilers, heat exchangers and pressure vessels

11000000 Electrical equipment

12000000 Refrigerating plants

13000000 Materials

14000000 Welding consumables

14000000MK Cargo handling gear

15000000 Automation

16000000 Glass-reinforced plastic ships and boats
 17000000 Ships carrying liquified gases in bulk (LG carriers)
 18000000 Nuclear ships and nuclear support vessels
 19000000MK Equipment and appliances for prevention of pollution from ships
 20000000 Computer software (computer calculation programs)

5. Firms (manufacturers) supply materials or products with the originals of the certificates (C, C3) or Type Approval Certificate (CTO), Certificate of Approval for Welding Consumables (COCM), certificates of type

approval (COTO), certificates of type test (COTИ), Type Approval Certificate of Ballast Water Management System (COOT), Type Approval Certificate for Computer Program (CTOП), Type Approval Certificate for Fire-Proof Division (CTИK) as indicated in column 5.

Shipboard internal combustion engines covered by regulation 13 of Annex VI to MARPOL 73/78 shall be supplied with EIAPP Certificate and approved NO_x Technical File. Exhaust gas cleaning systems to reduce SO_x emissions shall be supplied with the SO_x Emission Compliance Certificate/Certificate of Unit Approval for Exhaust Gas Cleaning System (form 2.4.42).

NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

Code of item of technical supervision	Item of technical supervision	Technical supervision of the Register						
		of prototype	type approval/recognition of manufacturer	at the firm (manufacturer)		during construction of ship		
				document issued	branding	installation, application	mooring trials	sea trials
1	2	3	4	5	6	7	8	9
01000000	HULL							
01010000	Hull structures	P	—	C	—	P	—	—
01020000	Structures of superstructures and deckhouses	P	—	C	—	P	—	—
01030000	Seatings of machinery and arrangements	P	—	C	—	P	—	—
02000000MK	LIFE-SAVING APPLIANCES							
02010000MK	Lifeboats and launching appliances:							
02010002MK	release mechanisms and free-fall launching appliances for lifeboats	P	CTO*	C	K	P	—	—
02010100MK	Launching appliances for lifeboats, rescue boats, fast rescue boats and liferafts:							
02010101MK	launching appliances using falls and winches for lifeboats	P	CTO*	C	K	P	P	—
02010102MK	free-fall launching appliances for lifeboats	P	CTO*	C	K	P	P	—
02010103MK	launching appliances for rescue boats	P	CTO*	C	K	P	P	—
02010104MK	launching appliances for fast rescue boats	P	CTO*	C	K	P	P	—
02010105MK	launching appliances for liferafts	P	CTO*	C	K	P	P	—
02010200MK	Lifeboats:							
02010201MK	partially enclosed lifeboats	P	CTO*	C	K	P	P	—
02010202MK	totally enclosed lifeboats	P	CTO*	C	K	P	P	—
02010203MK	totally enclosed lifeboats with a self-contained air support system	P	CTO*	C	K	P	P	—
02010204MK	fire-protected totally enclosed lifeboats	P	CTO*	C	K	P	P	—
02010305MK	free-fall lifeboats	P	CTO*	C	K	P	P	—
02010306MK	free-fall lifeboats with a self-contained air support system	P	CTO*	C	K	P	P	—
02010307MK	fire-protected free-fall lifeboats	P	CTO*	C	K	P	P	—
02020000MK	Liferafts, rescue boats, fast rescue boats:							
02020100MK	Containers for inflatable liferafts	P	CTO*	C3	—	P	—	—
02020200MK	Arrangements for launching and raising for liferafts, lifeboats and rescue/fast rescue boats	P	CTO*	C	K	P	P	—
02020300MK	Hydrostatic release units	P	CTO*	C3	—	P	—	—
02020400MK	Weak link of life raft	P	CTO*	C3	—	P	—	—
02020500MK	Automatic gas inflation system for inflatable liferafts, marine evacuation systems, means of rescue, inflatable lifejackets	P	CTO*	C3	K	P	—	—
02020600MK	Liferafts:							
02020601MK	inflatable liferafts	P	CTO*	C, C3 ²	K	P	—	—
02020602MK	rigid liferafts	P	CTO*	C, C3 ²	K	P	—	—
02020603MK	self-righting liferafts	P	CTO*	C, C3 ²	K	P	—	—
02020604MK	canopied reversible liferafts (with two canopies)	P	CTO*	C, C3 ²	K	P	—	—
02020700MK	Rescue boats:							
02020701MK	rigid rescue boats	P	CTO*	C	K	P	P	—
02020702MK	inflated rescue boats	P	CTO*	C	K	P	P	—

1	2	3	4	5	6	7	8	9
02020703MK	combined rescue boats	P	CTO*	C	K	P	P	—
02020800MK	Fast rescue boats:							
02020801MK	rigid fast rescue boats	P	CTO*	C	K	P	P	—
02020802MK	inflated fast rescue boats	P	CTO*	C	K	P	P	—
02020803MK	combined fast rescue boats	P	CTO*	C	K	P	P	—
02030000MK	Means for bringing lifeboats and liferafts against ship's side and holding them alongside, skates	—	—	—	—	P	P	—
02040000MK	Embarkation ladders, lifelines	P	CTO*	C3	—	P	—	—
02050000MK	Lifebuoys	P	CTO*	C3	K	P	—	—
02050100MK	Self-igniting lights	P	CTO*	C3	—	P	—	—
02050200MK	Self-activating smoke signals	P	CTO*	C3	—	P	—	—
02050300MK	Buoyant lifelines	—	CTO*	CTO	—	P	—	—
02060000MK	Lifejackets, immersion suits, anti-exposure suits and thermal protective aids							
02060100MK	Lifejackets:							
02060101MK	non-inflatable lifejackets	P	CTO*	C3	K	P	—	—
02060102MK	inflatable lifejackets	P	CTO*	C3	K	P	—	—
02060200MK	Immersion suits:							
02060201MK	immersion suits with thermal insulation	P	CTO*	C3	K	P	—	—
02060202MK	immersion suits without thermal insulation	P	CTO*	C3	K	P	—	—
02060300MK	Anti-exposure suits	P	CTO*	C3	K	P	—	—
02060400MK	Thermal protective aids	P	CTO*	C3	—	P	—	—
02070000MK	Lifejacket lights	P	CTO*	C3	—	P	—	—
02080000MK	Line-throwing appliances	P	CTO*	C	—	P	—	—
02090000MK	Equipment of survival craft, rescue boats/fast rescue boats:							
02090001MK	lifeboat steering gears	—	—	—	—	P	—	—
02090002MK	masts with sails and stays	—	—	—	—	P	—	—
02090003MK	oars, thole pins or crutches, buoyant oars	—	—	—	—	P	—	—
02090004MK	cap or plug of drain valves of lifeboats	—	—	—	—	P	—	—
02090005MK	lifelines, handrails	—	—	—	—	P	—	—
02090006MK	boarding ladder of lifeboat and boarding ramp of liferaft	—	—	—	—	P	—	—
02090007MK	buoyant rescue quito of liferafts with buoyant line	P	—	C3	—	P	—	—
02090008MK	lifeboat manual draining pumps	P	—	C3	—	P	—	—
02090009MK	protective covers	P	—	—	—	P	—	—
02090010MK	searchlights of lifeboats and rescue boats	P	CTO*	C3	—	P	—	—
02090011MK	life-saving signals table	—	—	—	—	P	—	—
02090012MK	signal whistles	P	CTO*	C3	—	P	—	—
02090013MK	boat compasses	P	CTO*	C3	—	P	—	—
02090014MK	internal and external lights of liferafts and lifeboats, lights of rescue/fast rescue boats	P	CTO*	C3	—	P	—	—
02090015MK	repair outfit (with instructions) for inflatable liferafts	—	—	—	—	P	—	—
02090016MK	waterproof electric torch	P	—	C3	—	P	—	—
02090017MK	food ration	P	CTO*	C3	—	P	—	—
02090018MK	fresh water	P	CTO*	C3	—	P	—	—
02090019MK	valves for inflatable liferafts and inflated rescue/fast rescue boats	P	CTO*	C3	—	P	—	—
02090020MK	first-aid outfit	P	CTO*	C	—	P	—	—
02110000MK	Sea activated power sources for lifejacket and liferaft lights and lifebuoy self-igniting lights	P	CTO*	C3	—	P	—	—
02120000MK	Marine evacuation systems	P	CTO*	C	K	P	—	—
02130000MK	Symbols for use in accordance with SOLAS-74 as amended	P	CTO*	C3	—	P	—	—
02140000MK	Means of rescue	P	CTO*	C, C3 ⁷	K	P	P	—
02150000MK	Type production processes	—	—	—	—	—	—	—
03000000	ARRANGEMENTS, EQUIPMENT, OUTFIT							
03010000	Rudder and steering gear:	—	—	—	—	P	P	P
03010100	rudder stocks including their flanges	P	—	C	K	P	—	—
03010101	rudder stock bearings	P	—	C3	—	P	—	—
03010102	parts of roller laying of steering gears	P	—	CTO	—	P	—	—
03010103	chains of steering ropes	P	—	CTO	—	P	—	—
03010200	rudder axles including their flanges	P	—	C	K	P	—	—
03010201	parts of connections of rudder axles with sternframe	P	—	C3	—	P	—	—

1	2	3	4	5	6	7	8	9
03010300	Nozzle rudder in assembly:	P	—	C	K	P	P	P
03010301	pintles	P	—	C3	K	P	—	—
03010302	pintle bushes	—	—	C3	—	P	—	—
03010303	parts for coupling rudder stock with nozzle rudder	P	—	C3	—	P	—	—
03010304	limiters of putting nozzle rudder over either side	P	—	—	—	P	—	—
03010400	rudder blade	P	—	C	K	P	—	—
03010401	pintles	P	—	C3	K	P	—	—
03010402	pintle bushes	P	—	C3	—	P	—	—
03010403	couplings	—	—	C3	—	P	—	—
03010404	limiters of putting rudder blade over either side	—	—	—	—	P	—	—
03010500	tillers	P	—	C3	—	P	—	—
03010501	parts of coupling tiller with rudder stock	—	—	C3	—	P	—	—
03010600	rudder quadrants	P	—	C3	—	P	—	—
03010601	parts for coupling quadrant with rudder stock	—	—	C3	—	P	—	—
03010700	Hull and foundation of main steerable podded electrical propulsion units:	—	—	—	—	P	P	P
03010701	parts of hull and propulsion block hull	P	—	C	K	—	—	—
03010702	parts of mounting block	P	—	C	K	—	—	—
03020000	Anchor arrangement:	—	—	—	—	P	P	P
03020005	anchor hawses	—	—	C3	—	P	—	—
03020100	anchors	P	СПН	C3	K	P	—	—
03020300	anchor stoppers	P	—	C3	—	P	P	—
03020400	device for securing and releasing the inboard end of the chain cable or rope	P	—	C3	—	P	P	—
03030000	Mooring arrangement:	—	—	—	—	P	P	—
03030001	bollards, cleats, fairleaders, hawses, rollers and stoppers	—	—	C3	—	P	P	—
03040000	Towing arrangements:	—	—	—	—	P	P	P
03040001	bitts, bollards, fairleaders, rollers and stoppers	—	—	C3	—	P	—	—
03040002	tow hooks, tow line releasing devices	P	—	C3	—	P	—	—
03040003	snatch-blocks	—	—	C3	—	P	—	—
03040004	towing rails	—	—	—	—	P	—	—
03040100MK	Emergency towing arrangement:	P	—	C	—	P	P	—
03040101	chain devices	P	—	C3	—	P	—	—
03040102	tow lines	P	—	C3	—	P	—	—
03040103	tow securing arrangements	P	—	C3	—	P	—	—
03050000	Signal masts:	P	—	C3	—	P	—	—
03050001	metal, wooden and glass-reinforced plastic rigging fixed gear of masts and their standing rigging	P	—	C3	—	P	—	—
03050002	loose gear of standing rigging	P	—	C3	—	P	—	—
03060000	Openings in hull, 1st and 2nd tiers of superstructures and deckhouses and their closing appliances:	—	—	—	—	P	P	—
03060100	side and flush deck scuttles round and square, wheelhouse windows (refer also to code 06010006MK)	P	CTO	C3	—	P	P	—
03060101	glassess for side and flush deck scuttles, round and square, wheelhouse windows	—	CTO	CTO	—	—	—	—
03060200	in bottom side shell plating doors	P	—	C3	—	P	P	—
03060300	outside doors in superstructures and deckhouses	P	CTO	C3	—	P	P	—
03060400	covers of companion hatches, skylights and ventilation trunks	P	CTO	C3	—	P	P	—
03060500	ventilation pipes	P	—	C3	—	P	P	—
03060700	doors in watertight bulkheads	P	CTO	C3	—	P	P	—
03060800	hatch covers of dry cargo holds, holds fitted for alternate carriage of bulk liquid and dry cargoes, tweendecks, cargo tanks	P	—	C3	—	P	P	—
03060801	tank manhole covers	P	—	CTO	—	P	P	—
03070000	Equipment of spaces:	—	—	—	—	P	—	—
03070001	plating, hold battens, linings in cargo holds	—	—	—	—	P	—	—
03070005	cellular guide members in holds of container carriers	—	—	—	—	P	—	—
03070200	doors in ship's spaces on escape routes	—	—	C3	—	P	—	—
03070300	stairways and vertical ladders	—	—	—	—	P	—	—
03070400	guard rails, bulwark and catwalk bridges	—	—	—	—	P	—	—
03070600	devices for securing movable decks, platforms, ramps and similar structures	P	—	C3	—	P	P	P
03070700	low-location lighting systems (photoluminescent, electrically powered)	P	—	C3	—	P	—	—

1	2	3	4	5	6	7	8	9
03070800	Seats for HSC passengers and crew	P	CTO	C3	—	P	—	—
03080000	Grain fittings:							
03080001	removable metal bulkheads	—	—	C3	—	—	—	—
03080003	shroud wire ropes	—	—	C3	—	—	—	—
03080004	gears of shrouds	—	—	C3	—	P	—	—
03090000	Arrangement for attachment of timber deck cargo	—	—	C3	—	P	—	—
03100000	Items made of ropes for all applications	P	—	C3	—	P	P	—
03110000	Emergency outfit:	—	—	—	—	P	—	—
03110001	thrummed mats, armoured mats with outfit	—	—	C3	—	P	—	—
03110002	tools	—	—	—	—	P	—	—
03110003	materials	—	—	—	—	P	—	—
03120000	MODU jacking frame of self-elevating system:	—	—	—	—	P	P	P
03120001	sliders and their guides	P	—	C	K	P	—	—
03120002	catches and their bearers	P	—	C	K	P	—	—
03120003	yokes and their latches	P	—	C	K	P	—	—
03120004	securing plates of hydraulic cylinders	P	—	C	—	P	—	—
03120005	support screws with nuts	P	—	C	K	P	—	—
03120006	jack frames	P	—	C	—	P	—	—
03120007	rack-and-pinion shafts	P	—	C	—	P	—	—
03120008	pinions and wheels	P	—	C	K	P	—	—
03120009	shafts	P	—	C	K	P	—	—
03120010	fastenings	P	—	C3	—	P	—	—
03130000	MODU arrangements for lifting and lowering columns of submersible sea water pumps:	—	—	—	—	P	P	—
03130001	columns and guides	P	—	C3	—	P	—	—
03130002	column support	P	—	C3	—	P	—	—
03130003	stoppers	P	—	C3	—	P	—	—
03140000	MODU fixing arrangements:	—	—	—	—	P	P	P
03140001	plates	P	—	C3	—	P	—	—
03140002	sliders	P	—	C3	—	P	—	—
03140003	screws and nuts	P	—	C3	—	P	—	—
03150000	Parts of lifting appliances for shipborne barges (lugs, eye plates, eyes, shackles, grips)	—	—	—	—	P	P	—
03160000	Securing devices of general cargo on board the ships:							
03160100	lashings (rope, chain, bar, belt, wire)	P	CTO	C3	K	P	—	—
03160200	tension devices (turnbuckles, bridge fittings)	P	CTO	C3	K	P	—	—
03160300	burtresses and shores	P	CTO	C3	K	P	—	—
03160400	locks (automatic and semi-automatic stoppers, stacking cones with locking pin)	P	CTO	C3	K	P	—	—
03160500	stacking cones (single, double, etc.)	P	CTO	C3	K	P	—	—
03160600	penguin hooks	P	CTO	C3	—	P	—	—
03160700	joint rings, lashing plates	P	CTO	C3	—	P	—	—
03160800	pedestal and flush sockets, dove-tail type sockets	P	CTO	C3	—	P	—	—
03170000MK	Pilot transfer arrangements:							
03170001MK	pilot ladders	—	—	C3	—	P	—	—
03170002MK	mechanical pilot hoists	—	—	C3	—	P	—	—
03180000MK	Means of embarkation and disembarkation:							
03180001MK	accommodation ladders and gangways	P	—	C	K	P	P	—
03200000	Type production processes	—	—	—	—	—	—	—
03000000MK	SIGNAL MEANS							
03010000MK	Navigation lights	P	CTO	C3	K	P	P	P
03020000MK	Flashing lights	P	CTO	C3	K	P	P	P
03030000MK	Sound signal means	P	CTO	C3	K	P	P	P
03040000MK	Pyrotechnic signal means	P	CTO	C3	—	P	—	—
03050000MK	Signal shapes	—	CTO	CTO	—	P	P	—
03100000MK	Type production processes	—	—	—	—	—	—	—
04000000MK	RADIO EQUIPMENT							
04020000	Radiotelephone communication facilities:							
04020900	VHF radiotelephone station	P	CTO*	CTO	—	P	P	P
04021100	UHF radiotelephone station	P	CTO*	CTO	—	P	P	P
04021200MK	two-way VHF radiotelephone apparatus for communications with aircraft	P	CTO*	C3*	—	P	P	P
04030500	portable two-way radiotelephone station	P	CTO*	CTO	—	P	P	P
04040000MK	Command broadcast facilities (command broadcast apparatus of public address system, microphone posts)	P	CTO*	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
04070000	Aerial	P	CTO*	CTO	—	P	P	P
04080000	Marine clocks for radio rooms	P	CTO*	CTO	—	P	P	P
04090000	Satellite radio communication equipment	P	CTO*	C3	—	P	P	P
04110000MK	GMDSS radio equipment:							
04110100MK	digital selective calling (DSC) encoder	P	CTO*	C3	—	P	P	P
04110200	facsimile device	P	CTO*	CTO	—	P	P	P
04110300MK	terminal printing device	P	CTO*	C3	—	P	P	P
04110400MK	telephony and NBDP receiver	P	CTO*	C3	—	P	P	P
04110500MK	telephony, DSC and NBDP transmitter	P	CTO*	C3	—	P	P	P
04110600MK	VHF radiotelephone station	P	CTO*	C3	—	P	P	P
04110700MK	MF radiotelephone station	P	CTO*	C3	—	P	P	P
04110800MK	MF/HF radiotelephone station	P	CTO*	C3	—	P	P	P
04110900MK	direct-printing apparatus of improved fidelity	P	CTO*	C3	—	P	P	P
04111100MK	radio equipment power supply device, automatic battery charger	P	CTO*	C3	—	P	P	P
04111200	GMDSS workstations	P	CTO*	C3	—	P	P	P
04120000MK	VHF radio installation (set)	P	CTO*	C3	—	P	P	P
04130000MK	MF radio installation (set)	P	CTO*	C3	—	P	P	P
04140000MK	MF/HF radio installation (set)	P	CTO*	C3	—	P	P	P
04150000MK	INMARSAT ship earth station	P	CTO*	C3	—	P	P	P
04150100MK	INMARSAT ship earth station with EGC receiver	P	CTO*	C3	—	P	P	P
04150200MK	ship security alert system (SSAS)	P	CTO*	CTO	—	P	P	P
04160000MK	COSPAS-SARSAT satellite EPIRB	P	CTO*	C3	—	P	P	P
04170000MK	VHF EPIRB using DSC on channel 70	P	CTO*	C3	—	P	P	P
04180000MK	NAVTEX service receiver	P	CTO*	C3	—	P	P	P
04190000MK	enhanced group calling (EGC) receiver	P	CTO*	C3	—	P	P	P
04200000MK	DSC watch receiver	P	CTO*	C3	—	P	P	P
04210000MK	HF direct-printing radiotelegraph receiver	P	CTO*	C3	—	P	P	P
04220000MK	radar transponder	P	CTO*	C3	—	P	P	P
04220100MK	ship's and survival craft AIS search and rescue transmitter (AIS-SART)	P	CTO*	C3	—	P	P	—
04230000MK	two-way VHF radiotelephone apparatus	P	CTO*	C3	—	P	P	P
04240000	diagnosis and checking systems for GMDSS equipment	P	CTO*	CTO	—	—	—	—
04250000MK	integrated GMDSS radio communication system	P	CTO*	C3	—	P	P	P
04400000	radio equipment not mentioned above	P	CTO*	— ¹	—	P	— ¹	— ¹
04410000	Ship security surveillance TV system	P	CTO*	CTO	—	—	P	P
05000000MK	NAVIGATIONAL EQUIPMENT							
05010000MK	Magnetic compasses (standard, spare, lifeboat)	P	CTO*	C3	—	P	P	P
05010100MK	transmitting heading devices (THD)	P	CTO*	C3	—	P	P	P
05020000MK	Gyrocompasses	P	CTO*	C3	—	P	P	P
05030000MK	Logs (speed and distance measuring devices)	P	CTO*	C3	—	P	P	P
05040000MK	Deck logs	P	CTO*	CTO	—	P	P	P
05050000MK	Echo sounders	P	CTO*	C3	—	P	P	P
05060000MK	Heading control systems/track control systems	P	CTO*	C3	—	P	P	P
05070000MK	Integrated navigation systems	P	CTO*	C3	—	P	P	P
05080000	Combined ship's workstation	P	—	C	—	P	P	P
05090000	Horizontal sonar navigational systems	P	CTO*	CTO	—	P	P	P
05100000MK	Gyro-magnetic compasses and gyro-azimuths	P	CTO*	C3	—	P	P	P
05110000	Unified timing systems	P	CTO*	CTO	—	P	P	P
05120000MK	Rate-of-turn indicators	P	CTO*	C3	—	P	P	P
05130000MK	Electronic chart display and information system (ECDIS)	P	CTO*	C3	—	P	P	P
05140000MK	Radionavigation equipment:							
05140210MK	radar equipment intended for ships below 500 gross tonnage	P	CTO*	C3	—	P	P	P
05140220MK	radar equipment intended for ships below 10000 gross tonnage	P	CTO*	C3	—	P	P	P
05140230MK	radar equipment intended for ships of 10000 gross tonnage and upwards	P	CTO*	C3	—	P	P	P
05140240MK	radar ice display	P	CTO*	C3	—	P	P	P
05140250	radar equipment intended for ships below 300 gross tonnage	P	CTO*	C3	—	P	P	P
05140300MK	radionavigation system receivers	P	CTO*	C3	—	P	P	P
05140400MK	Ship's radar reflectors (shipborne and for life-saving appliances)	P	CTO*	C3	—	P	P	P
05150000MK	Equipment of the universal automatic identification system (UAS), class "A"	P	CTO*	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
05150000	Equipment of the automatic identification system (AIS), class "B"	P	CTO*	C3	—	P	P	P
05160100MK	Voyage data recorders (VDR)	P	CTO*	C3	—	P	P	P
05160200MK	Simplified voyage data recorders (S-VDR)	P	CTO*	C3	—	P	P	P
05170000MK	Sound reception systems	P	CTO*	C3	—	P	P	P
05180000	Alarm and communication systems (for OMBO ships)	P	CTO*	C3	—	P	P	P
05190000MK	Bridge navigational watch alarm systems (BNWAS)	P	CTO*	C3	—	P	P	P
05200000MK	Equipment for long-range identification and tracking of ships (LRIT)	P	CTO*	C3	—	P	P	P
05210000	Remote camera systems	P	CTO*	CTO	—	P	P	P
05220000	Hydrometeorological complexes	P	CTO*	C3	—	P	P	P
05220100MK	HSC night vision equipment	P	CTO	C3	—	P	P	—
05220100	Night vision equipment	P	CTO	C3	—	P	P	—
05300000	Navigational equipment not mentioned above	P	CTO*	— ¹	—	P	— ¹	— ¹
06000000	FIRE PROTECTION							
06010000MK	Structural fire protection:							
06010100MK	fire-proof bulkheads, decks and ceilings bulkheads:							
06010101MK	A-60 class	P	CTHK	CTHK	—	P	—	—
06010102MK	A-30 class	P	CTHK	CTHK	—	P	—	—
06010103MK	A-15 class	P	CTHK	CTHK	—	P	—	—
06010105MK	B-15 class	P	CTHK	CTHK	—	P	—	—
06010106MK	B-0 class	P	CTHK	CTHK	—	P	—	—
	decks:							
06010107MK	A-60 class	P	CTHK	CTHK	—	P	—	—
06010108MK	A-30 class	P	CTHK	CTHK	—	P	—	—
06010109MK	A-15 class	P	CTHK	CTHK	—	P	—	—
	ceilings:							
06010111MK	B-15 class	P	CTHK	CTHK	—	P	—	—
06010112MK	B-0 class	P	CTHK	CTHK	—	P	—	—
06010200MK	fire-proof doors:							
06010201MK	A-60 class	P	CTHK	CTHK	—	P	—	—
06010202MK	A-30 class	P	CTHK	CTHK	—	P	—	—
06010203MK	A-15 class	P	CTHK	CTHK	—	P	—	—
06010204MK	A-0 class	P	CTHK	CTHK	—	P	—	—
06010205MK	B-15 class	P	CTHK	CTHK	—	P	—	—
06010206MK	B-0 class	P	CTHK	CTHK	—	P	—	—
06010300MK	C class bulkheads, doors	P	CTHK	CTHK	—	P	—	—
06010400	H class structures:							
06010401	H-120	P	CTHK	CTHK	—	P	—	—
06010402	H-60	P	CTHK	CTHK	—	P	—	—
06010403	H-0	P	CTHK	CTHK	—	P	—	—
06010005MK	Cable transit, pipe and duct penetrations	P	CTHK	CTHK	—	P	P	—
06010006MK	Windows and sidescuttles (refer to regulations II-2/4.5.2.3 and II-2/9.4.1.3 of SOLAS 74)	P	CTHK	C3	—	P	P	—
06010207MK	Arrangements for automatic closing of fire doors	P	CTO	CTO	—	P	P	—
06020000MK	Materials, deck coverings, paints, varnishes							
06020100MK	Materials:							
06020101MK	insulation (plates, panels, mats, cords, etc.)	P	CTO	CTO	—	P	—	—
06020102MK	facing	P	CTO	CTO	—	P	—	—
06020103MK	furniture, curtains, etc.	P	CTO	CTO	—	P	—	—
06020104MK	bedclothes	P	CTO	CTO	—	P	—	—
06020200MK	Deck coverings (linoleum, carpets, mastics)	P	CTO	CTO	—	P	—	—
06020300MK	Paints, varnishes for exposed surfaces inside spaces	P	CTO	CTO	—	P	—	—
06020400MK	Primary deck coating	P	CTO	CTO	—	P	—	—
06030000MK	Fire extinguishing systems:							
06030100MK	water fire main system	P	—	—	—	P	P	—
06030200MK	sprinkler system	P	CTO	CTO	—	P	P	—
06030300MK	pressure water-spraying system	P	—	—	—	P	P	—
06030400	water-screen system	P	—	—	—	P	P	—
06030500MK	water fog system	P	CTO	CTO	—	P	P	—
06030600MK	foam fire extinguishing system	P	CTO	C3	—	P	P	—
06030700MK	fixed local application fire extinguishing system for use in machinery spaces	P	CTO	C3	—	P	P	—
06030800MK	Carbon dioxide system as well as systems containing fire extinguishing gas in cylinders	P	CTO	C3	—	P	P	—
06031100MK	Powder system	P	CTO	C3	—	P	P	—

1	2	3	4	5	6	7	8	9
06031200MK	Aerosol system	P	CTO	C3	—	P	P	—
06050000MK	Items of fire extinguishing systems:							
06050200MK	sprinkler heads and control detection devices	P	CTO	C3	—	—	—	—
06050300MK	spray nozzles, monitors	P	CTO	CTO	—	—	—	—
06050600MK	high-expansion foam generators	P	CTO	C	—	—	—	—
06050800	mixers of foam systems, tanks for the storage of foam-generating liquid	P	CTO	CTO	—	—	—	—
06060000	Fire-fighting outfit:							
06060100MK	fire hoses complete with couplings	P	CTO	C3	—	P	—	—
06060101MK	fire hoses without couplings	—	CTO	CTO	—	P	—	—
06060200MK	fire hoses nozzles	P	CTO	CTO	—	P	—	—
06060300MK	air-foam nozzles	P	CTO	CTO	—	P	—	—
06060400MK	portable foam generators	P	CTO	CTO	—	P	—	—
06060500MK	portable foam sets	P	CTO	CTO	—	P	P	—
06060800MK	water fog applicators	—	—	—	—	P	—	—
06060900MK	portable fire extinguishers	P	CTO	CTO	—	P	—	—
06061000	45 l and 136 l foam fire extinguishers	—	CTO	C3	—	P	—	—
06061100	16 kg and 45 kg CO ₂ or powder fire extinguishers	—	CTO	C3	—	P	—	—
06061200	sand receptacles, fire hose cabinets	—	—	—	—	P	—	—
06061300	blanket	—	—	—	—	P	—	—
06061400MK	fireman's outfit (clothing, boots, gloves, helmet)	—	CTO	C3	—	P	—	—
06061500MK	portable safety lamp	P	CTO	CTO	—	P	—	—
06061600MK	self-contained breathing apparatus, emergency escape breathing device	—	CTO	C3	—	P	—	—
06061700MK	flexible fireproof lifeline	P	CTO	CTO	—	P	—	—
06061800MK	protective clothing for work with dangerous goods	—	CTO	C3	—	P	—	—
06061900	portable fire motor pumps	P	CTO	C3	K	P	P	—
06062000MK	international shore connection	—	—	—	—	P	—	—
06062100MK	foam concentrate, powder, special gas and other fire-extinguishing substances	P	CTO	CTO	—	P	—	—
06062300MK	gas analyser for vapours of flammable liquids, gases and oxygen content	—	CTO	C3	—	P	—	—
06070000	Water intake system from sea water storage tanks of self-elevating MODU	—	—	—	—	P	P	—
06080000	MODU gas detection and alarm system	P	CTO	CTO	—	P	P	—
06090000MK	Smoke detection system operating on the principle of air sampling from spaces	P	CTO	C3	—	P	P	—
06150000	Type production processes	—	—	—	—	—	—	—
07000000	MACHINERY INSTALLATIONS							
07010000	Shafting:	—	—	—	—	P	P	P
07010007	shafting connecting bolts	—	—	C3	—	P	—	—
07010008	propeller shaft cone sealings	—	—	—	—	P	—	—
07010009	CPP-shaft flange connection sealings	—	—	—	—	P	—	—
07010100	thrust shafts	P	—	C	K	P	—	—
07010200	intermediate shafts	P	—	C	K	P	—	—
07010300	propeller and sterntube shafts	P	—	C	K	P	—	—
07010301	propeller shaft liners	P	—	C	—	P	—	—
07010400	thrust bearings	P	—	C3	—	P	P	P
07010500	journal bearings	P	—	C3	—	P	P	P
07010600	shaft couplings	P	—	C3	—	P	P	P
07020000	Stern tubes:	—	—	—	—	P	P	P
07020100	tubes	P	—	C3	K	P	—	—
07020200	stern bearings, including strut bearings	P	—	C3	—	P	—	—
07020300	seals	P	—	C3	—	P	P	P
07020301	sealing components (collars, rings)	P	—	C3	—	—	—	—
07020302	packing gland	P	CTO	CTO	—	—	—	—
07020303	pneumatic stop	P	—	C3	—	—	—	—
07030000	Propellers:							
07030100	fixed-pitch propellers:	P	—	C	K	P	P	P
07030101	bosses	P	—	C3	K	P	—	—
07030102	blades	P	—	C3	K	P	—	—
07030103	blade securing items	P	—	C3	K	P	—	—
07030200	controllable pitch propellers:	P	—	C	K	P	P	P
07030201	boss	P	—	C3	K	P	—	—
07030202	blades	P	—	C3	K	P	—	—
07030203	blade securing items	P	—	C3	K	P	—	—

1	2	3	4	5	6	7	8	9
07030204	crankpin rings	P	—	C3	K	—	—	—
07030205	crosshead	P	—	C3	K	—	—	—
07030206	slide block	—	—	—	—	—	—	—
07030207	hydraulic cylinder	P	—	C3	K	—	—	—
07030208	CPP blade sealing	P	—	C3	—	—	—	—
07030210	power hydraulic system	P	—	C3	—	P	—	—
07030212	CPP control system	P	—	C3	—	P	P	P
07030220	pitch changing mechanism:	P	—	C3	K	P	P	P
07030221	pitch changing mechanism shaft, oil transfer block shaft	P	—	C3	K	—	—	—
07030222	hydraulic cylinder	P	—	C3	K	—	—	—
07030223	piston and securing items	P	—	C3	K	—	—	—
07030224	push-pull rods	P	—	C3	K	—	—	—
07030225	pitch changing mechanism control equipment (actuating)	P	—	C3	—	P	P	P
07030300	voith-schneider propellers:	P	—	C	K	P	P	P
07030301	propeller housing	—	—	—	—	—	—	—
07030302	rotor casing	—	—	—	—	—	—	—
07030303	rotor shaft	P	—	C3	K	—	—	—
07030304	blade	P	—	C3	K	—	—	—
07030305	central support	P	—	C3	K	—	—	—
07030306	control lever	P	—	C3	K	—	—	—
07030307	gears and pinions	P	—	C3	K	—	—	—
07030308	driving shaft	P	—	C3	K	—	—	—
07030400	Steerable propellers:	P	CTO ²	C	K	P	P	P
07030401	propeller	P	—	C	K	P	—	—
07030402	shafts	P	—	C3	K	—	—	—
07030403	pinions	P	—	C3	K	—	—	—
07030404	housings	P	—	C3	—	—	—	—
07030406	couplings	P	—	—	—	—	—	—
07030407	propeller shaft seals	P	—	C3	—	—	—	—
07030408	steerable propeller housing sealing	P	—	C3	—	—	—	—
07030409	thrust bearings	P	CTO ²	C3	—	—	—	—
07030410	journal bearings	P	CTO ²	C3	—	—	—	—
07030411	control system	P	—	C3	—	—	—	—
07030412	steering gear wheel and pinion	P	—	C3	K	—	—	—
07030413	steering gear bearing	P	—	C3	K	—	—	—
07030414	motors and pumps of hydraulic systems of steering gear	P	CTO	C3	K	P	P	P
07030415	flexible hoses of hydraulic and lubricating systems	P	CTO	C3	—	—	—	—
07030500	Thrusters	P	—	C3	K	P	P	P
07030600	Main steerable podded electrical propulsion units:	P	CTO	C	K	P	P	P
07030601	propulsion unit	P	CTO	C3	K	P	P	P
07030602	propeller	P	—	C	K	P	P	P
07030603	shaft	P	—	C	K	—	—	—
07030604	thrust bearing	P	CTO	CTO	—	—	—	—
07030605	journal bearing	P	CTO	CTO	—	—	—	—
07030606	propeller shaft seals	P	CTO	C3	—	—	—	—
07030607	hull sealing of propulsion unit	P	CTO	C3	—	—	—	—
07030608	hydraulic steering systems	—	—	—	—	P	P	P
07030609	machinery of hydraulic steering system	P	CTO	C3	K	P	P	P
07030610	hydraulic systems of steering brake gear	—	—	—	—	P	P	P
07030611	machinery of hydraulic systems of steering brake gear	P	CTO	C3	K	P	P	P
07030612	hydraulic systems of shaft brake gear	—	—	—	—	P	P	P
07030613	machinery of hydraulic systems of shaft brake gear	P	CTO	C3	K	P	P	P
07030614	cooling air unit	P	CTO	C3	K	P	P	P
07030615	machinery of cooling air unit	P	CTO	C3	K	—	—	—
07030616	lubricating oil treatment (cleaning and control) unit	—	—	—	—	P	P	P
07030617	machinery of lubricating oil treatment (cleaning and control) unit	P	CTO	C3	K	—	—	—
07030618	steering gear wheel	P	—	C	K	—	—	—
07030619	steering gear bearing	P	—	C	K	—	—	—
07030620	swivel of lubricating and drainage systems	P	—	C	K	—	—	—
07030621	flexible hoses of hydraulic and lubricating system	P	CTO	C3	—	—	—	—

1	2	3	4	5	6	7	8	9
07030622	connecting bolts of hull, shafts and steering gear wheel	—	CTO	C3	—	—	—	—
07030623	technical condition monitoring system for thrust and journal bearings	P	CTO	CTO	—	P	P	P
07030624	hydraulic emergency control system	P	CTO	C3	—	P	P	P
07030700	Water jets	P	CTO*2	C	K	P	P	P
07040000	Shock absorbers	P	CTO	CTO	—	P	—	—
07050000	Bulkhead seals and glands	P	—	C3	—	P	P	—
07150000	Type production processes	—	—	—	—	—	—	—
08000000	SYSTEMS AND PIPING							
08010000	Ship's systems:							
08010100	bilge system	—	—	—	—	P	P	—
08010200	ballast system	—	—	—	—	P	P	—
08010300	heel and trim systems	—	—	—	—	P	P	—
08010400	sewage water system	—	—	—	—	P	P	—
08010500	scupper pipe system	—	—	—	—	P	P	—
08010600	heating systems of fuel and lubrication oil tanks, ballast water tanks, cargo heating systems for oil tankers, side fittings above the waterline on icebreakers and ships with ice strengthening	—	—	—	—	P	P	—
08010610	chemical carrier cargo temperature control	—	—	—	—	P	P	—
08010620	gas carrier cargo pressure and temperature control	—	—	—	—	P	P	—
08010700	ventilation system	—	—	—	—	P	P	—
08010800	air, overflow and sounding pipes	—	—	—	—	P	P	—
08010850	venting and cargo vapour emission	—	—	—	—	P	P	—
08010900	hydraulic drives of machinery and equipment	—	—	—	—	P	P	—
08011000	voice pipes	—	—	—	—	P	—	—
08011100	cargo systems of chemical carriers, gas carriers and oil tankers	—	—	—	—	P	P	—
08011150	oil skimming system on oil skimming ships	—	—	—	—	P	P	—
08011200	compressed air for tyfon, bottom and side fitting blowing, instruments and fittings of air-controlled automation systems	—	—	—	—	P	P	—
08011300	fuel oil system for domestic purposes:	—	—	—	—	P	P	—
08011310	equipment of the fuel oil system for domestic purposes	P	CTO	C3	—	P	P	—
08011400MK	inert gas system:	—	—	—	—	P	P	—
08011410MK	inert gas generator	P	CTO	C3	—	P	P	—
08011420MK	water seal of the inert gas system	P	—	C3	—	P	P	—
08011430MK	scrubber of the inert gas system	P	CTO	C3	—	P	P	—
08011440MK	instruments and alarms of the inert gas system	P	CTO	C3	—	P	P	—
08011450MK	nitrogen generator of the inert gas system	P	CTO	C3	—	P	P	—
08011460MK	air compressor for the nitrogen generator	P	—	C3	—	P	P	—
08011470MK	nitrogen receiver	P	—	C3	—	P	P	—
08020000	Systems of machinery installations:							
08020100	oil fuel system	—	—	—	—	P	P	P
08020110	fuel treatment	P	—	C3	—	P	P	P
08020200	lubricating oil system	—	—	—	—	P	P	P
08020300	cooling water system	—	—	—	—	P	P	P
08020400	compressed air system	—	—	—	—	P	P	—
08020500	exhaust system	—	—	—	—	P	P	P
08020600	steam piping and blow-off system	—	—	—	—	P	P	—
08020700	condensate and feed water system	—	—	—	—	P	P	—
08020800	thermal oil system	—	—	—	—	P	P	—
08030000	Valves:							
08030100	Class I and Class II pipes valves	P	—	C3	—	—	—	—
08030200	Class III pipes valves:							
08030210	class III pipes valves, $D_y > 100$ mm	P	—	C3	—	—	—	—
08030220	class III pipes valves, $D_y \leq 100$ mm	P	—	CTO	—	—	—	—
08030230	bottom and side valves	P	—	C3	—	P	—	—
08030240	remote-controlled valves	P	—	C3	—	—	—	—
08030300	formed components of pipes and pipelines	P	—	CTO	—	—	—	—
08030400MK	type A ventilation fire dampers	P	CTO	CTO	—	P	P	—
08030410	ventilation fire dampers	—	—	CTO	—	P	P	—
08030420	type H ventilation fire dampers	P	CTO	CTO	—	P	P	—

1	2	3	4	5	6	7	8	9
08030500MK	tank venting and cargo vapour emission systems	P	CTO	C3	—	—	—	—
08030510MK	automatic closing devices for air pipes	P	CTO	CTO	—	P	P	—
08030600	Flexible joints	P	CTO	C3	—	—	—	—
08030700	Expansions pieces and mechanical connections of pipes:							
08030710	mechanical connections of pipes	P	CTO	CTO	—	P	—	—
08030720	expansion pieces	P	—	CTO	—	P	—	—
08030800MK	Cargo hoses of chemical and gas carriers	P	CTO	C3	—	P	—	—
08030900	Cargo hoses of oil tankers	P	CTO	C3	—	P	—	—
08031000	Oil fuel and lubricating oil receiving/transfer hoses	P	CTO	C3	—	—	—	—
08031100	Appliances and systems for oil product transfer afloat and from a point berth	P	—	C3	—	P	P	—
08031110	Cargo vapour transfer hoses	P	CTO	C3	—	P	—	—
08031200	Gauges:							
08031240	thermometers	P	—	CTO	—	P	P	—
08031250	manometers	—	—	—	—	P	P	—
08031260	level gauges	P	—	CTO	—	P	P	—
08031270	discharge gages and flowmeters	P	—	CTO	—	P	P	—
08031300	Sleeves for hoses according to codes 08030800, 08030900, 08031000 and 08031100	P	CTO	CTO	—	—	—	—
08040000	Spark arresters (spark extinguishers), dampers of exhaust gas systems, boiler and incinerator uptakes	P	—	C3	—	P	P	P
08050000	Sea water system of self-elevating MODU	—	—	—	—	P	P	P
08060000	Purging and water filling system of MODU leg tanks	—	—	—	—	P	P	P
08070000	MODU marine riser tightening and rolling compensation system	—	—	—	—	P	P	P
08080000	Hydraulic drive system of jacking arrangements of self-elevating MODU	—	—	—	—	P	P	P
08090000	Hydraulic drive system of arrangement for lifting and lowering columns of submersible sea water pumps of MODU	—	—	—	—	P	P	P
08100000	MODU ventilation system of enclosed spaces maintained in overpressure	—	—	—	—	P	P	—
08110000	MODU drilling mud emergency discharge system	—	—	—	—	P	P	—
08120000MK	Flange gasket material	P	—	CTO	—	P	—	—
08150000	Type production processes	—	CTO	—	—	—	—	—
09000000	MACHINERY							
09010000	Internal combustion engines of power output 55 kW and over (main, auxiliary and emergency):⁸	P	CTO*	C ³	K	P	P	P
09010001	bed plates	P	—	C3, W ⁸	K	—	—	—
09010002	welded crankcases	P	—	C3, W ⁸	K	—	—	—
09010003	cylinder blocks (gray cast iron (GJI)/spheroidal graphite cast iron (GJS)) of cross head engines	P	—	W ⁸	—	—	—	—
09010004	welded cylinder blocks of crosshead engines	P	—	C3, W ⁸	K	—	—	—
09010005	cylinder liners (jackets), $D_{cyl} > 300$ mm	P	—	W ⁸	—	—	—	—
09010006	cylinder covers (GJI/GJS) $D_{cyl} > 300$ mm	P	—	W ⁸	—	—	—	—
09010007	cylinder covers (forged/cast steel) $D_{cyl} > 300$ mm	P	—	C3, W ⁸	K	—	—	—
09010008	tie rods of cross head engines	P	—	C3, W ⁸	K	—	—	—
09010009	piston crown (cast steel, forged steel)	P	—	C3, W ⁸	K	—	—	—
09010011	piston rods, $D_{cyl} > 400$ mm	P	—	C3, W ⁸	K	—	—	—
09010012	connecting rods	P	—	C3, W ⁸	K	—	—	—
09010013	crossheads	P	—	C3, W ⁸	K	—	—	—
09010014	crankshaft: made in one piece, semi-built	P	—	C3, W ⁸	K	—	—	—
09010015	crankcases (GJI/GJS), power > 400 kW/cyl	P	—	W ⁸	—	—	—	—
09010016	crankcase safety valves	P	CTO*	W ⁸	—	—	P	P
09010021	Hydraulic power drive for outlet valves assembly, for crosshead engines	P	—	W ⁸	—	—	—	—
09010022	Hydraulic accumulators (of common rail fuel or servo oil system), with a capacity of > 0,5 l	P	—	W ⁸	—	—	—	—
09010023	High pressure servo oil system	P	—	W ⁸	—	—	—	—
09010024	Engine-driven hydraulic pumps > 800 kW/cyl	P	—	W ⁸	—	—	—	—
09010025	Electrically-driven hydraulic pumps	P	—	W ⁸	—	—	—	—
09010026	Hydraulic pipes and high pressure flexible joints	P	—	W ⁸	—	—	—	—
09010032	Air coolers ($D_{cyl} > 300$ mm)	P	—	W ⁸	—	—	—	—
09011600	Bearings:							
09011601	main bearings (power > 800 kW/cyl.)	P	—	W ⁸	—	—	—	—

1	2	3	4	5	6	7	8	9
09011602	bottom-end bearings (power > 800 kW/cyl)	P	—	W ⁸	—	—	—	—
09011604	crosshead bearings (power > 800 kW/cyl)	P	—	W ⁸	—	—	—	—
09011606	Thrust bearing bedplate	P	—	C3, W ⁸	—	—	—	—
09011700	Securing items:							
09011701	bolts and studs of main bearings ($D_{st} > 300$ mm)	P	—	W ⁸	—	—	—	—
09011702	bolts and studs of bottom-end bearings ($D_{st} > 300$ mm)	P	—	W ⁸	—	—	—	—
09011703	bolts and studs of cylinder covers ($D_{st} > 300$ mm)	P	—	W ⁸	—	—	—	—
09011704	Coupling bolts for crankshaft	P	—	C3, W ⁸	K	P	—	—
09011900	Oil fuel equipment:							
09011901	casings and covers of high pressure fuel injection pumps	P	—	W ⁸	—	—	P	P
09011902	fuel valves	P	—	W ⁸	—	—	P	P
09011903MK	high pressure oil fuel injection pipes	P	—	C3, W ⁸	—	—	P	P
09011906	Common rail system: ⁸ high pressure oil fuel injection pump, fuel valves, high pressure oil fuel injection pipes for the accumulator fuel oil system	P	—	W ⁸	—	—	P	P
09013000MK	Rescue boat engines	P	CTO*	C3	K	—	P	P
09014000MK	Lifeboat engines	P	CTO*	C3	K	P	P	P
09015000	Diesel-generators ⁴	P	CTO* ²	C3	K	P	P	P
09016000	Diesel-engine geared set ⁴	P	CTO* ²	C3	K	P	P	P
09017000MK	Diesel engines complying with Regulation 13 of Annex VI to MARPOL 73/78 and with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (NO _x Technical Code)	P	—	ELAPP, C3	—	P	—	—
09017001MK	Exhaust gas cleaning system to reduce NO _x emission recognized as a component of marine diesel engine	P	—	W	—	—	—	—
09020000	Internal combustion engines of power output below 55 kW (drives of generators, fire pumps, compressors, engines of lifeboats and rescue boats):							
09020100	auxiliary engines, emergency	P	CTO	W	—	P	P	P
09020200MK	lifeboat engines	P	CTO*	C3	K	P	P	P
09023000MK	rescue boat engines	P	CTO*	C3	K	—	P	P
09024000	diesel-generators ⁴	P	CTO ²	W	—	—	P	P
09025000	diesel-engine geared set ⁴	P	CTO ²	W	—	—	P	P
09030000	Main steam turbines and electric generator turbines:	P	CTO	C	K	P	P	P
09030001	turbine casings	P	—	C3	K	—	—	—
09030002	nozzle boxes	P	—	C3	K	—	—	—
09030003	manoeuvring gear casings	P	—	C3	K	—	—	—
09030004	nozzles	P	—	C3	—	—	—	—
09030005	diaphragms	P	—	C3	K	—	—	—
09030006	discs	P	—	C3	K	—	—	—
09030007	blades	P	—	C3	—	—	—	—
09030008	gland seals	P	—	C3	—	—	—	—
09030009	rotors and shafts	P	—	C3	K	—	—	—
09030010	bearings	P	—	C3	—	—	—	—
09030011	couplings	P	—	C3	—	—	—	—
09030012	shrouds and lashing wire	P	—	C3	—	—	—	—
09030013	bolts for split casing joints	P	—	C3	—	—	—	—
09040000	Steam auxiliary turbines:	P	CTO	C3	—	P	P	P
09040001	turbine casings	P	—	C3	—	—	—	—
09040002	nozzle boxes	P	—	C3	—	—	—	—
09040003	nozzles	P	—	C3	—	—	—	—
09040004	discs	P	—	C3	—	—	—	—
09040005	blades	P	—	C3	—	—	—	—
09040006	rotors and shafts	P	—	C3	—	—	—	—
09040007	bearings	P	—	C3	—	—	—	—
09050000	Main gas turbines and electric generator gas turbines:	P	CTO	C3	K	P	P	P
09050001	turbine casings	P	—	C3	K	—	—	—
09050002	compressor housings	P	—	C3	K	—	—	—
09050003	combustion chamber casings	P	—	C3	K	—	—	—
09050004	diaphragms	P	—	C3	—	—	—	—
09050005	turbine rotors	P	—	C3	K	—	—	—
09050006	turbine discs	P	—	C3	—	—	—	—
09050007	compressor rotors	P	—	C3	K	—	—	—
09050008	compressor discs	P	—	C3	—	—	—	—

1	2	3	4	5	6	7	8	9
09050009	turbine blades	P	—	C3	—	—	—	—
09050010	compressor blades	P	—	C3	—	—	—	—
09050011	shrouds, lashing wire	P	—	C3	—	—	—	—
09050012	flame tube of combustion chambers	P	—	C3	—	—	—	—
09050013	regenerators	P	—	C3	—	—	—	—
09050014	gland seals	P	—	C3	—	—	—	—
09050015	bearings	P	—	C3	—	—	—	—
09050016	couplings	P	—	C3	—	—	—	—
09050017	bolts for turbine split casing joints	P	—	C3	—	—	—	—
09050018	bolts for compressors split casing joints	P	—	C3	—	—	—	—
09060000	Main machinery reduction gear:	P	CTO ²	C3	K	P	P	P
09060001	reduction gear casing	P	—	C3	K	—	—	—
09060002	wheels and pinions	P	—	C3	K	—	—	—
09060003	reduction gear shafts	P	—	C3	K	—	—	—
09060004	detachable half-couplings of shafts	P	—	C3	—	—	—	—
09060005	bolts	P	—	C3	—	—	—	—
09060006	sliding bearings	P	—	C3	—	—	—	—
09060100	Disengaging, flexible couplings and other:	P	CTO	C3	K	P	P	P
09060101	coupling casing	P	—	C3	K	—	—	—
09060102	coupling shafts	P	—	C3	K	—	—	—
09060103	driving parts of couplings	P	—	C3	—	—	—	—
09060104	driven parts of couplings	P	—	C3	—	—	—	—
09060105	components of flexible couplings	—	—	C3	—	—	—	—
09060106	sliding bearings	P	—	C3	—	—	—	—
09070000	Auxiliary machinery reduction gear:	P	CTO ²	C3	—	P	P	P
09070001	casings of reduction gear and couplings	P	—	C3	—	—	—	—
09070002	wheels and pinions	P	—	C3	—	—	—	—
09070003	shafts of reduction gears and couplings	P	—	C3	—	—	—	—
09080000	Auxiliary machinery:							
09080100	starting air compressors	P	CTO	C3	—	P	P	P
09080200	turbochargers	P	CTO*	C3	—	P	P	P
09080201	turbochargers, category C	P	CTO	C3	—	P	P	P
09080202	turbochargers, category B	P	—	W	—	—	P	P
09080300	main and auxiliary boiler blowers	P	CTO ²	C3	—	P	P	P
09080400	cooling water pumps of main engines and auxiliary machinery	P	CTO	C3	—	P	P	P
09080500	circulating pumps of main condensers	P	CTO	C3	—	P	P	P
09080600	lubricating oil pumps of main engines and turbines	P	CTO	C3	—	P	P	P
09080700	boiler feed water pumps	P	CTO	C3	—	P	P	P
09080800	condensate pumps	P	CTO	C3	—	P	P	P
09080900	boiler burner pumps	P	CTO	C3	—	P	P	P
09081000	fuel oil transfer pumps and fuel-feed pumps of main engines	P	CTO	C3	—	P	P	—
09081100	bilge pumps	P	CTO	C3	—	P	P	—
09081200	fire pumps	P	CTO	C3	—	P	P	—
09081300	fire motor-pumps	P	CTO	C3	—	P	P	—
09081400	ballast pumps	P	CTO	C3	—	P	P	—
09081500	cargo pumps	P	CTO	C3	—	P	—	—
09081600	steam-jet ejectors of condensers	P	CTO	C3	—	P	P	P
09081700	circulating pumps of waste-heat boilers	P	CTO	C3	—	P	P	P
09081800	oil fuel and lubricating oil separators	P	CTO	C3	—	P	P	P
09081900	bilge ejectors	P	CTO	C3	—	P	P	—
09090000	Parts of machinery listed under 09080000:							
09090100	piston pumps and compressors:							
09090101	cylinder blocks	—	—	C3	—	—	—	—
09090102	cylinder liners	—	—	C3	—	—	—	—
09090103	pistons	—	—	C3	—	—	—	—
09090104	piston rods	—	—	C3	—	—	—	—
09090105	connecting rods	—	—	C3	—	—	—	—
09090106	crankshafts	—	—	C3	—	—	—	—
09090200	centrifugal and rotary pumps and compressors:							
09090201	shafts	—	—	C3	—	—	—	—
09090202	impellers, rotors	—	—	C3	—	—	—	—
09090203	casings	—	—	C3	—	—	—	—
09090300	screw and gear pumps and compressors:							
09090301	shafts, screws	P	—	C3	—	—	P	P
09090302	casings	P	—	C3	—	—	P	P

1	2	3	4	5	6	7	8	9
09090303	screw pump housing	P	—	C3	—	—	P	P
09090304	pinions	P	—	C3	—	—	P	P
09090400	oil fuel and lubricating oil separators:							
09090401	bowl bodies, shafts	P	—	C3	—	—	P	P
09090402	bowl discs	P	—	C3	—	—	P	P
09090403	pinions	P	—	C3	—	—	P	P
09090500	gas turbochargers and blowers:							
09090501	shafts and rotors	—	—	C3	—	—	—	—
09090502	gland seals	—	—	C3	—	—	—	—
09090503	casings	—	—	C3	—	—	—	—
09090504	bearings	—	—	C3	—	—	—	—
09090505	supercharging air coolers	P	CTO ²	C3	—	P	P	P
09100000	Deck machinery:							
09100100MK	steering gear (engines):	P	CTO	C3	K	P	P	P
09100101	rudder stock yoke	P	—	C3	—	—	—	—
09100102	cylinders	P	—	C3	—	—	—	—
09100103	driven shafts	P	—	C3	—	—	—	—
09100104	pinions, wheels, tooth rims	—	—	C3	—	—	—	—
09100105	pistons with rods	P	—	C3	—	—	—	—
09100106	safety valves	P	—	C3	—	—	P	P
09100200	windlass and anchor capstans:	P	CTO	C3	K	P	P	P
09100201	intermediate and output shafts and spindles	P	—	C3	—	—	—	—
09100202	chain sprockets	—	—	C3	—	—	—	—
09100203	pinions, gears of power drives	—	—	C3	—	—	—	—
09100204	disengaging and safety clutches	—	—	C3	—	—	—	—
09100205	band and automatic brakes	—	—	C3	—	—	—	—
09100300	mooring capstans and winches:	P	CTO	C3	—	P	P	—
09100301	spindles, output shafts	P	—	C3	—	—	P	P
09100302	pinions, gears of power drives	P	—	C3	—	—	P	P
09100303	safety clutches	P	—	C3	—	—	P	P
09100304	automatic brakes	P	—	C3	—	—	P	P
09100400	towing winches:	P	CTO	C3	—	P	P	P
09100401	output and intermediate shafts	—	—	C3	—	—	—	—
09100402	pinions, gears of power drives	—	—	C3	—	—	—	—
09100403	rope tightening control devices, rope layers	—	—	C3	—	—	—	—
09100404	brakes	—	—	C3	—	—	—	—
09100500MK	boat winches:	P	CTO	C3	K	P	P	P
09100501	output and intermediate shafts	—	—	C3	—	—	—	—
09100502	pinions, gears of power drives	—	—	C3	—	—	—	—
09100503	automatic and hand brakes	—	—	C3	—	—	—	—
09100504	stoppers	—	—	C3	—	—	—	—
09110000	Mechanical telegraphs	P	CTO	C3	—	P	P	P
09120000	Fans:							
09120010	machinery spaces, foam and smothering fire extinction stations, refrigerated spaces	—	—	CTO	—	P	P	—
09120020	cargo pump rooms, holds for carriage of dangerous goods and motor vehicles, helicopters sheds	P	CTO	C3	—	P	P	—
09120030	portable gas freeing fans for enclosed spaces on oil and chemical tankers	P	CTO	C3	—	P	P	—
09120040	dangerous spaces and spaces with overpressure of MODU, oil and chemical tankers	P	CTO	C3	—	P	P	—
09130000	Motors and pumps of hydraulic systems:	P	CTO	C3	K	P	P	P
09130001	shafts, rotors, pinions	—	—	C3	—	—	—	—
09130002	rods	—	—	C3	—	—	—	—
09130003	pistons, plungers	—	—	C3	—	—	—	—
09130004	casings	—	—	C3	—	—	—	—
09130005	hydraulic cylinders	—	—	C3	—	—	—	—
09140000	Thruster machinery	P	CTO	C3	K	P	P	P
09150000	Sea water submersible pumps	P	CTO	C3	K	P	P	—
09160000	Drives of MODU jacking arrangements:	P	—	C3	K	P	P	P
09160100	hydraulic cylinders in assembly	P	—	C3	K	—	—	—
09160101	cylinders and covers	P	—	C3	K	—	—	—
09160102	pistons with rods	P	—	C3	K	—	—	—
09160103	yokes for securing hydraulic cylinders	P	—	C3	K	—	—	—
09160104	securing items	—	—	C3	—	P	—	—

1	2	3	4	5	6	7	8	9
09170000	Winches of MODU lifting and lowering columns of submersible sea water pumps:	P	—	C3	K	P	P	—
09170001	output and intermediate shafts	P	—	C3	—	—	—	—
09170002	wheels and pinions	P	—	C3	—	—	—	—
09170003	brakes	P	—	C3	—	—	—	—
09200000	Type production processes	—	—	—	—	—	—	—
10000000	BOILERS, HEAT EXCHANGERS AND PRESSURE VESSELS							
10000100	Steam generating units	P	—	C3	K	P	P	P
10010000	Boilers, including waste-heat and water heating boilers:	P	CTO/ СПИ	C3	K	P	P	P
10010003	shells	P	—	C3	—	—	—	—
10010004	end plates	P	—	C3	—	—	—	—
10010006	water chambers	P	—	C3	—	—	—	—
10010007	combustion chambers	P	—	C3	—	—	—	—
10010008	furnaces	P	—	C3	—	—	—	—
10010009	boiler stays	P	—	C3	—	—	—	—
10010011	economizers	P	—	C3	—	—	—	—
10010012	steam accumulators (steam separators)	P	—	C3	K	P	P	P
10010100	shells	P	—	C3	—	—	—	—
10010200	drums	P	—	C3	—	—	—	—
10010500	headers	P	—	C3	—	—	—	—
10011000	oil burning equipment	P	—	C3	—	P	P	P
10011300	steam superheaters	P	—	C3	—	—	—	—
10011400	air heaters	—	—	C3	—	—	—	—
10020000	Heat exchangers and pressure vessels:							
10020100	boiler feed water heaters	P	—	C3	—	P	P	P
10020101	deaerators	P	—	C3	—	P	P	P
10020200	condensers of main turbines	P	—	C	—	P	P	P
10020201	condensers of electric generator turbines	P	—	C3	—	P	P	P
10020300	condensers of auxiliary steam turbines	P	—	C3	—	P	P	—
10020400	distillers	P	—	C3	—	P	—	P
10020500	heaters:							
10020501	oil fuel heaters	P	—	C3	—	P	P	—
10020502	lubricating oil heaters	P	—	C3	—	P	P	—
10020503	water heaters	P	—	C3	—	P	P	—
10020600	coolers:							
10020601	lubricating oil coolers of main machinery	P	—	C3	—	P	P	P
10020602	water coolers of main machinery	P	—	C3	—	P	P	P
10020603	lubricating oil coolers of auxiliary machinery	P	—	C3	—	P	P	P
10020604	water coolers of auxiliary machinery	P	—	C3	—	P	P	P
10020700	filters:							
10020701	oil fuel filters	P	—	C3	—	P	P	—
10020702	lubricating oil filters	P	—	C3	—	P	P	—
10020703	water filters	P	—	C3	—	P	P	—
10020800	air bottles	P	—	C3	K	P	P	—
10020900	hydraulic accumulators	P	—	C3	—	P	P	—
10021000	hydrophores	—	—	—	—	—	P	—
10021100	pressure vessels and apparatus of fire-fighting systems	P	—	C3	K	P	P	—
10021200	pressure vessels and apparatus of domestic, production, research and other applications	—	—	C3	—	P	—	—
10030000	Valves:							
10030100	valves for boilers equal to or over 0,07 MPa	P	—	C3	—	—	—	—
10030200	valves for pressure vessels and heat exchangers equal to or over 0,07 MPa, $D_y \geq 50$ mm	P	—	C3	—	—	—	—
10030300	safety valves	P	CTO	C3	—	P	P	—
10030400	pressure gauges	—	—	—	—	P	P	—
10040000	Pressure vessels for MODU marine riser tightening and rolling compensation system	—	—	C3	K	P	P	P
10050000	Gas fuel tanks:							
10050100	liquefied gas fuel tanks	P	CTO	C	K	P	P	P
10050200	compressed gas fuel tanks	P	CTO	C	K	P	P	P
10050300	gas fuel treatment installation	P	—	C3	K	P	P	—
10050400	LNG fuel forcing vaporizer	P	CTO	C3	K	P	P	—
10100000	Type production processes	P	CTO	CTO	—	P	—	—

1	2	3	4	5	6	7	8	9
1100000	ELECTRICAL EQUIPMENT							
1101000	Electrical propulsion plant:	—	—	—	—	P	P	P
1101010	propulsion generators or main power plant generators, if combined	P	—	C*	K	—	—	—
1101020	propulsion electrical motors (PEM)	P	—	C*	K	—	—	—
1101030	podded azimuth drive's propulsion electrical motors	P	—	C*	K	—	—	—
1101040	propulsion switchboards	P	—	C*	—	—	—	—
11010410	standard unit/card of switchboard	P	CTO*	—	—	—	—	—
1101050	propulsion transformers, reactors	P	—	C*	—	—	—	—
1101060	propulsion semiconductor converters	P	—	C*	—	—	—	—
1101070	electrical machine converters	P	—	C*	—	—	—	—
1101080	control systems, monitoring and protection systems	P	CTO*	C	—	—	—	—
1101090	slip rings devices for podded azimuth propulsion	P	—	C*	—	—	—	—
1101100	azimuth drives for podded propulsion electrical motors	P	—	C*	—	—	—	—
1102000	Main and emergency sources of electrical power:	—	—	—	—	P	P	P
1102010	generators:							
11020101	power of 100 kVA and over	P	CTO*	C	K	—	—	—
11020102	power less than 100 kVA	P	CTO*	C3	—	—	—	—
1102020	accumulators and accumulator batteries	P	CTO*	CTO	—	—	—	—
1102030	uninterrupted power supply:	—	—	—	—	—	—	—
11020301	power of 25 kVA and over	P	CTO	C	—	—	—	—
11020302	power less than 25 kVA	P	CTO	C3	—	—	—	—
1102040	other sources of electrical power	P	CTO*	C3	—	—	—	—
1103000	Transformers and converters:	—	—	—	—	P	P	P
1103010	power transformers	P	CTO*	C	—	—	—	—
11030101	lighting transformers	P	CTO*	C	—	—	—	—
1103020	measuring and other transformers	P	CTO*	CTO	—	—	—	—
1103030	rotary converters:	—	—	—	—	—	—	—
11030301	power of 100 kVA and over	P	CTO*	C	—	—	—	—
11030302	power less than 100 kVA	P	CTO	C3	—	—	—	—
1103040	rotary amplifiers:	—	—	—	—	—	—	—
11030401	power of 100 kVA and over	P	CTO	C	—	—	—	—
11030402	power less than 100 kVA	P	CTO	C3	—	—	—	—
1103050	static and semi-conductor converters (rectifiers, inverters, frequency converters) with rated current:	—	—	—	—	—	—	—
11030501	rated current over 25 A	P	CTO*	C	—	—	—	—
11030502	rated current 25 A and less	P	CTO	C3	—	—	—	—
1104000	Switchboards and control and monitoring desks:	—	—	—	—	P	P	P
1104010	main switchboards	P	—	C	—	—	—	—
11040101	emergency switchboards	P	—	C	—	—	—	—
11040110	standard unit/card of switchboard	P	CTO*	—	—	—	—	—
1104020	distribution and other switchboards	P	CTO	C3	—	—	—	—
1104030	navigation light switchboards	P	CTO	C3	—	—	—	—
1104040	desks:	—	—	—	—	P	P	P
11040401	control desks	P	CTO	C	—	—	—	—
11040402	monitoring desks	P	CTO	C	—	—	—	—
11040403	signalling desks	P	CTO	C	—	—	—	—
1104050	switchgear and control gear, alarm and indicating devices							
11040502	switches	P	CTO	CTO	—	—	—	—
11040503	contactors, relays	P	CTO*	CTO	—	—	—	—
11040504	tripping devices	P	CTO	CTO	—	—	—	—
11040505	switches, limit switches	P	CTO	CTO	—	—	—	—
11040506	resistors and rheostats	P	CTO	CTO	—	—	—	—
11040507	semiconductor switching devices for non-motor loads	P	CTO	CTO	—	—	—	—
11040509	pilot devices (push buttons, switchers, joysticks, etc.)	P	CTO	CTO	—	—	—	—
1104060	protective devices:							
11040601	relays I > 25 A	P	CTO*	C3	—	—	—	—
11040602	relays I ≤ 25 A	P	CTO	CTO	—	—	—	—
11040603	fuses I > 25 A	P	CTO	C3	—	—	—	—
11040604	fuses I ≤ 25 A	P	CTO	CTO	—	—	—	—
11040605	complex protective devices	P	CTO*	C3	—	—	—	—

1	2	3	4	5	6	7	8	9
11040606	protective barriers of intrinsically safe circuits of <i>Exi</i> type	P	CTO*	CTO	—	—	—	—
11040607	circuit breakers $I \geq 25$ A	P	CTO*	C3	—	—	—	—
11040608	circuit breakers $I < 25$ A	P	CTO*	CTO	—	—	—	—
11040700	controllers:							
11040701	regulators $I > 25$ A	P	CTO*	C3	—	—	—	—
11040702	regulators $I \leq 25$ A	P	CTO	CTO	—	—	—	—
11040703	reactors	P	CTO*	CTO	—	—	—	—
11040704	power coefficient increase capacitors	P	CTO	CTO	—	—	—	—
11040800	stationary electrical measuring instruments	P	CTO	CTO	—	—	—	—
11040900	busbars	—	—	—	—	P	P	P
11050000	Electric drives for machinery referred to in 07000000, 09000000, 12000000, 14000000MK, 18050000 19000000MK as well as fishing vessel machinery and ships engaged in processing of living resources of the sea and not engaged in catching:							
11050100	electric motors:							
11050101	electric motors with power output 100 kW and over	P	CTO*	C	K	—	—	—
11050102	electric motors with power output more than 20 kW and less 100 kW	P	CTO	C3	—	—	—	—
11050103	electric motors with power output up to 20 kW	P	CTO	CTO	—	—	—	—
11050200	starting devices:	—	—	—	—	—	—	—
11050201	starters	P	CTO	C3	—	—	—	—
11050202	suppressors of breaking power, resistances and rheostats	P	CTO	CTO	—	—	—	—
11050204	controllers	P	CTO	C3	—	—	—	—
11050205	soft starters rated at 20 kW and more	P	CTO*	C3	—	—	—	—
11050206	control systems for electric drives	P	CTO	C3	—	P	P	P
11050207	soft starters rated up to 20 kW	P	CTO*	CTO	—	—	—	—
11050208	electronic power units for valve control for primary and secondary essential services	P	CTO	CTO	—	—	—	—
11050209	electronic power units for valve control for non-essential services	P	CTO	CTO	—	—	—	—
11050300	electromagnetic brakes	P	CTO	CTO	—	—	—	—
11050400	electromagnetic clutches	P	CTO	CTO	K	—	—	—
11060000	Main and emergency lighting:	—	—	—	—	P	P	P
11060001	stationary lighting fixtures, flood-light projectors	P	CTO	CTO	—	—	—	—
11060002	lighting fitting and accessories	P	CTO	CTO	—	—	—	—
11070000	Control and monitoring devices:							
11070100	electrical engine telegraphs	P	CTO*	C3	—	P	P	P
11070200	rudder angle indicators	P	CTO	CTO	—	P	P	P
11070300	CPP position indicator	P	CTO	CTO	—	P	P	P
11070400	tachometers	P	CTO	CTO	—	P	P	P
11070500	other monitoring devices (static electricity insulation, intrinsically-safe circuits, etc)	P	CTO	C3	—	P	P	P
11080000	Telephone service communication:	—	—	—	—	P	P	P
11080100	commutators and telephone communication sets	P	CTO	CTO	—	—	—	—
11090000	General alarm system:	—	—	—	—	P	P	P
11090001	visual and sound devices and switches	P	CTO	CTO	—	—	—	—
11100000	Fire detection system and warning alarm on fire smothering system release:	P	CTO*	C3	—	P	P	P
11100100	indicating units of fire detection system	P	CTO*	C3	—	—	—	—
11100102	manual fire alarm buttons and detectors of fire detection system	P	CTO*	CTO	—	—	—	—
11100103	system components of warning alarm on fire smothering system release	P	CTO*	CTO	—	—	—	—
11100200	Warning systems of local fire extinguishing system release for machinery space machinery:	P	CTO*	C3	—	P	P	P
11100201	switchboards, control and alarm panels	P	CTO*	C3	—	—	—	—
11100202	detectors and other components	P	CTO*	CTO	—	—	—	—
11100300	Alarm system of high-level of bilge water:	P	CTO	C3	—	P	P	P
11100301	switchboards, control and alarm panels	P	—	C3	—	—	—	—
11100302	detectors and other components	P	CTO	CTO	—	—	—	—
11100400	Engineer's alarm:	P	CTO	C3	—	P	P	P
11100401	switchboards, control and alarm panels	P	—	C3	—	—	—	—
11100402	detectors and other components	P	CTO	CTO	—	—	—	—

1	2	3	4	5	6	7	8	9
11100500	Alarm system of people presence inside refrigerated holds:	P	CTO	C3	—	P	P	P
11100501	switchboards, control and alarm panels	P	—	C3	—	—	—	—
11100502	detectors and other components	P	CTO	CTO	—	—	—	—
11100600	Alarm system of side port closures condition:	P	CTO*	C3	—	P	P	P
11100601	switchboards, control and alarm panels	P	CTO ²	C3*	—	—	—	—
11100602	detectors and other components	P	CTO*	CTO	—	—	—	—
11100700	Exterior/inner video monitoring system:	P	CTO*	C3	—	P	P	P
11100701	video cameras	P	CTO*	CTO	—	—	—	—
11100702	video terminals	P	CTO*	CTO	—	—	—	—
11100703	switchboards, control and alarm panels	P	CTO ²	C3*	—	—	—	—
11100704	detectors and other components	P	CTO*	CTO	—	—	—	—
11100800	Alarm system of explosive gas concentration increase in spaces and areas:	P	CTO*	C3	—	P	P	P
11100801	switchboards, control and alarm panels	P	CTO ²	C3*	—	—	—	—
11100802	detectors and other components	P	CTO*	CTO	—	—	—	—
11100900	Cargo holds and dry cargo ships water ingress detection system:	P	CTO*	C3	—	P	P	P
11100901	switchboards, control and alarm panels	P	CTO ²	C3*	—	—	—	—
11100902	detectors and other components	P	CTO*	CTO	—	—	—	—
11110000	Fire and watertight door signalling system:	P	CTO*	C3	—	P	P	P
11110001	components of fire and watertight door signalling system	P	CTO*	CTO	—	—	—	—
11110100	Warning alarm system for automatic sprinkler fire-extinguishing system	P	CTO*	C	—	P	P	P
11110101	Central alarm panel	P	CTO*	C3	—	—	—	—
11110102	Detectors and other components	P	CTO*	CTO	—	—	—	—
11120000	Machinery personnel alarm system	—	—	C3	—	P	P	P
11120001	Components of machinery personnel alarm system	P	CTO	CTO	—	—	—	—
11130000	Cabling:	—	—	—	—	P	P	P
11130100	cables and wires:	P	CTO*	C3	—	—	—	—
11130101	cables of supply circuits for voltage over 1000 V	P	CTO*	C3	—	—	—	—
11130102	cables of supply circuits for voltage up to 1000 V	P	CTO*	C3	—	—	—	—
11130103	cables of control circuits and information transfer circuits	P	CTO*	C3	—	—	—	—
11130104	coaxial cables	P	CTO*	C3	—	—	—	—
11130105	optical-fiber cables	P	CTO*	C3	—	—	—	—
11130200	items and devices for installation, splicing and connection of cables and wires	P	CTO*	CTO	—	—	—	—
11140000	Lightening and earthing conductors, impressed current protection	P	CTO	CTO	—	P	—	—
11150000	Heating and cooking appliances, stationary appliances:	—	—	—	—	P	P	P
11150001	oil fuel and lubricating oil heating appliances	P	CTO	C3	—	—	—	—
11150002	heating radiators for air-conditioning system	P	CTO	CTO	—	—	—	—
11150003	water heaters of 0,025 m ³ in capacity and pressure equal to or more than 0,07 MPa	P	CTO	C3	—	—	—	—
11150004	other stationary heating appliances	P	CTO	CTO	—	—	—	—
11150005	heating cables	P	CTO*	CTO	—	P	P	P
11160000	Electrical filters of different purpose:	—	—	—	—	—	—	—
11160001	electrical filters of different purpose, $I < 25$ A	P	CTO	CTO	—	P	P	P
11160002	electrical filters of different purpose, $I \geq 25$ A	P	CTO	C3	—	P	P	P
11170000	Special systems of oil tankers and gas carriers:	—	—	—	—	—	—	—
11170100	Alarm system of temperature increase of bulkhead bearings of cargo and ballast pumps:	P	CTO*	C3	—	P	P	P
11170101	switchboards, control and alarm panels	P	CTO*	C3	—	—	—	—
11170102	detectors and other components	P	CTO*	CTO	—	—	—	—
11170200	Alarm system of cargo high and limiting level:	P	CTO*	C3	—	P	P	P
11170201	switchboards, control and alarm panels	P	CTO ²	C3*	—	—	—	—
11170202	detectors and other components	P	CTO*	CTO	—	—	—	—
11180000	Signalling on failures in MODU jacking system:	—	CTO*	C3	—	P	P	P
11180001	switchboards, control and alarm panels	P	CTO ²	C3*	—	—	—	—
11180002	detectors and other components	P	CTO*	CTO	—	—	—	—
11190000	Housings for electrical items	P	CTO	CTO	—	—	—	—
11210000	Other electrical equipment	P	CTO	CTO	—	—	—	—
11220000	Type production processes	—	—	—	—	—	—	—

1	2	3	4	5	6	7	8	9
12000000	REFRIGERATING PLANTS							
12010000	Refrigerating units and machinery:							
12010005	Parts of products specified in 12010000	P	—	C3	K	—	—	—
12010100	Compressors:							
12010110	screw type	P	—	C3	K	P	P	—
12010120	piston type	P	—	C3	K	P	P	—
12010130	centrifugal and axial-flow type	P	—	C3	K	P	P	—
12010200	Refrigerant pumps	P	—	C3	K	P	P	—
12010300	Secondary refrigerant pumps	P	—	CTO	—	P	P	—
12010400	Compressing and condensating units	P	—	C3	K	P	P	—
12010500	Ice generators	P	—	C3	K	P	P	—
12010600	Freezing units	P	—	C3	K	P	P	—
12020000	Refrigerant pressure vessels:							
12020100	Refrigerant condensators	P	—	C3	—	P	P	—
12020200	Direct evaporation air coolers	P	—	C3	—	P	P	—
12020300	Brine air coolers	P	—	CTO	—	P	P	—
12020400	Refrigerant evaporators	P	—	C3	—	P	P	—
12020500	Refrigerant filters	P	—	C3	—	P	P	—
12020600	Oil separators	P	—	C3	—	P	P	—
12020700	Refrigerant receiver	P	—	C3	—	P	P	—
12020800	Refrigerant separator	P	—	C3	—	P	P	—
12050000	Piping and valves:							
12050004	Valves designed for pressure 1,0 MPa and more	P	—	CTO	—	P	P	—
12050100	Pipes of refrigerant, liquid secondary refrigerant and cooling water	—	—	—	—	P	P	—
12050200	Air pipes of cooling system	—	—	—	—	P	P	—
12050300	Safety devices and valves	P	—	C3	—	P	P	—
12050400	Solenoid valves	P	—	CTO	—	P	P	—
12050500	Manually operated valves	P	—	CTO	—	P	P	—
12060000	Safety devices	P	—	CTO	—	P	P	—
12070000	Automatic control devices	P	—	CTO	—	P	P	—
12070100	Thermostatic expansion valves	P	—	CTO	—	P	P	—
12070200	Thermostats	P	—	CTO	—	P	P	—
12070300	Bellows-actuated pressure switches	P	—	CTO	—	P	P	—
12080000	Atmosphere control devices	P	—	CTO	—	P	P	—
12090000	Materials for insulation of refrigerated spaces and pipes	P	—	CTO	—	P	P	—
12100000	Refrigerant	P	—	CTO	—	P	P	—
12110000	Refrigerant leak detectors	P	—	CTO	—	P	P	—
13000000	MATERIALS							
13100000	Steel and iron							
13110000	Rolled products:							
13110100	rolled products for ship and MODU structures as well as ship arrangements:							
13110101	plates and sheets	P	СПИ	C3	K*	—	—	—
13110102	strips	P	СПИ	C3	K*	—	—	—
13110103	sections	P	СПИ	C3	K	—	—	—
13110104	bars	P	СПИ	C3	K	—	—	—
13110105	welded sections	P	СПИ	C3	K	—	—	—
13110200	rolled steel for boilers, heat exchangers and pressure vessels	P	СПИ	C3	K	—	—	—
13110400	rolled stock for MODU gears and machinery	P	СПИ	C3	K	—	—	—
13110500	clad steel	P	—	СПИ+С3	K	—	—	—
13120000	Tubes and pipes:							
13120100	tubes and pipes for Class I and Class II machinery, boilers, heat exchangers and pressure vessels:							
13120101	seamless	P	СПИ	C3	—	—	—	—
13120102	welded	P	СПИ	C3	—	—	—	—
13120200	tubes and pipes for Class I and II piping and MODU special systems:							
13120201	seamless	P	СПИ	C3	—	—	—	—
13120202	welded	P	СПИ	C3	—	—	—	—
13120400	constructional tubes and pipes of MODU gears and machinery:							
13120401	seamless	P	СПИ	C	K	—	—	—
13120402	welded	P	СПИ	C	K	—	—	—

1	2	3	4	5	6	7	8	9
13130000	Forgings:							
13130100	forgings for ship hull and MODU structures as well as ship arrangements:							
13130101	stems, bar keels, shafting struts	P	СПИ	СЗ	К	—	—	—
13130102	rudder stocks and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13130200	forgings for boilers, heat exchangers, pressure vessels and for pipes of pipeline systems	P	СПИ	СЗ	К	—	—	—
13130300	forgings for NSSS	P	СПИ	СЗ	К	—	—	—
13130400	forgings for MODU gears and machinery	P	СПИ	СЗ	К	—	—	—
13130500	forgings for ship machinery and machinery installations:							
13130501	forgings for propellers and CPP (bosses and blades)	P	СПИ	СЗ	К	—	—	—
13130502	forgings for crankshafts of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ	К	—	—	—
13130503	forgings for propeller, intermediate and thrust shafts	P	СПИ	СЗ	К	—	—	—
13130504	forgings for connecting rods, rods, pistons, crossheads of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ	К	—	—	—
13130505	forgings for casings, disks, rotors and shafts of main turbines and compressors	P	СПИ	СЗ	К	—	—	—
13130506	forgings for gears, pinions and shafts of main machinery transmissions	P	СПИ	СЗ	К	—	—	—
13130507	forgings for tillers, quadrants, part of rudders and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13130508	forgings for propulsion motors shafts, generators and slip couplings built into the shafting	P	СПИ	СЗ	К	—	—	—
13130600	forgings for anchors and accessories	P	СПИ	СЗ	К	—	—	—
13140000	Castings:							
13140100	castings for ship hull and MODU structures as well as ship arrangements:							
13140101	castings for stems, bar keels, shafting struts	P	СПИ	СЗ	К	—	—	—
13140102	castings for rudder stocks and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13140200	castings for boilers, heat exchangers, pressure vessels and for pipes of pipeline systems	P	СПИ	С	К	—	—	—
13140300	castings for NSSS	P	СПИ	СЗ	К	—	—	—
13140400	castings for MODU gears and machinery	P	СПИ	СЗ	К	—	—	—
13140500	castings of machinery and machinery installations:							
13140501	castings for propellers and CPP (bosses and blades)	P	СПИ	СЗ	К	—	—	—
13140502	castings for crankshafts of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ	К	—	—	—
13140503	castings for propeller, intermediate and thrust shafts	P	СПИ	СЗ	К	—	—	—
13140504	castings for connecting rods, rods, pistons, crossheads of internal combustion engines of power output 55 kW and over	P	СПИ	СЗ	К	—	—	—
13140505	castings for casings and shafts of main turbines and compressors	P	СПИ	СЗ	К	—	—	—
13140506	castings for gears, pinions and shafts of main machinery transmissions	P	СПИ	СЗ	К	—	—	—
13140507	castings for tillers, quadrants, parts of rudders and rudder nozzles	P	СПИ	СЗ	К	—	—	—
13140600	castings for anchors and accessories	P	СПИ	СЗ	К	—	—	—
13150000	steel for chains	P	СПИ	СЗ	—	—	—	—
13160000	Semi-finished products:							
13160100	ingot	P	—	СПИ+СЗ	К	—	—	—
13160200	blum	P	—	СПИ+СЗ	К	—	—	—
13160300	slab	P	—	СПИ+СЗ	К	—	—	—
13160400	billet	P	—	СПИ+СЗ	К	—	—	—
13200000	Aluminium, titanium and copper alloys:							
13210000	rolled products for ship hull and MODU structures and ship arrangements	P	СПИ	СЗ	К	—	—	—

1	2	3	4	5	6	7	8	9
13220000	pipes and tubes	P	СПИ	СЗ	—	—	—	—
13230000	forgings	P	СПИ	СЗ	K	—	—	—
13240000	castings	P	СПИ	СЗ	K	—	—	—
13240100	castings for propellers and CPP	P	СПИ	СЗ	K	—	—	—
13250000	Laminated composite materials							
13251000	Steel-titanium	P	СПИ	СЗ	K	—	—	—
13300000	Non-metal materials:							
13310000	materials for reinforced plastic structures:							
13310100	reinforcing materials	P	СТО	СТО	—	—	—	—
13310200	binders	P	СТО	СТО	—	—	—	—
13320000	laminated textiles	P	СТО	СТО	—	—	—	—
13330000	retro-reflective materials	P	СТО	СТО	—	—	—	—
13340000	foam plastics	P	СТО	СТО	—	—	—	—
13350000	polymeric compositions	P	СТО*	СТО	—	—	—	—
13351000	plating of polymer composite material (fibre reinforced plastic) of the gangways	P	СТО	СТО	—	—	—	—
13360000	anticorrosive coating of hull structures	P	СТО*	СТО	—	P	—	—
13361000MK	protective coating for dedicated sea water ballast tanks (IMO resolution MSC.215(82))	P	СТО*	СТО	—	P	P	P
13362000MK	protective coatings for cargo oil tanks of crude oil tankers (IMO resolution MSC.288(87))	P	СТО*	СТО	—	P	P	P
13370000MK	antifouling coatings of ship's hulls	P	СТО*	СТО	—	P	—	—
13380000	ice-resistant coatings	P	СТО*	СТО	—	P	—	—
13400000	Anchor and mooring chain cables and accessories	P	СПИ	СЗ	K	P	P	P
13500000	Ropes:							
13510000	wire ropes	P	СПИ	СЗ	—	—	—	—
13520000	ropes of natural and synthetic fibre	P	СПИ	СЗ	—	—	—	—
13600000	Plastic pipes and accessories	P	СПИ	СЗ	—	—	—	—
13600100	Pipes and shape pieces of class III	—	—	СТО	—	—	—	—
13800000	Stainless steel:							
13810000	rolled plates and bars	P	—	СПИ+СЗ	K	—	—	—
13820000	pipes	P	—	СПИ+СЗ	K	—	—	—
13830000	forgings	P	—	СПИ+СЗ	K	—	—	—
13840000	castings	P	—	СПИ+СЗ	K	—	—	—
13850000	semi-finished products	—	—	СПИ+СЗ	—	—	—	—
14000000	WELDING CONSUMABLES							
14100000	Electrodes:							
14100100	electrodes for ships hull and MODU structures	P	СОСМ	СОСМ	—	—	—	—
14100200	electrodes for boilers, heat exchangers and pressure vessels	P	СОСМ	СОСМ	—	—	—	—
14100300	electrodes for Class I, Class II and Class III piping	P	СОСМ	СОСМ	—	—	—	—
14100400	electrodes for nuclear steam supply systems	P	СОСМ	СОСМ	—	—	—	—
14100500	electrodes for machinery, devices, equipment and welded parts of internal combustion engines	P	СОСМ	СОСМ	—	—	—	—
14200000	Wire/flux:							
14200100	wire/flux for ship hull MODU structures	P	СОСМ	СОСМ	—	—	—	—
14200200	wire/flux for boilers, heat exchangers and pressure vessels	P	СОСМ	СОСМ	—	—	—	—
14200300	wire/flux for Class I, Class II and Class III piping	P	СОСМ	СОСМ	—	—	—	—
14200400	wire/flux for nuclear steam supply systems	P	СОСМ	СОСМ	—	—	—	—
14200500	wire/flux for machinery, equipment and welded parts of internal combustion engines	P	СОСМ	СОСМ	—	—	—	—
14300000	Wire/gas:							
14300100	wire/gas for hull structures of ships and MODU	P	СОСМ	СОСМ	—	—	—	—
14300200	wire/gas for boilers, heat exchangers and pressure vessels	P	СОСМ	СОСМ	—	—	—	—
14300300	wire/gas for Class I, II and Class III piping	P	СОСМ	СОСМ	—	—	—	—
14300400	wire/gas for nuclear steam supply systems	P	СОСМ	СОСМ	—	—	—	—
14300500	wire/gas for machinery, equipment and welded parts of internal combustion engines	P	СОСМ	СОСМ	—	—	—	—
14400000	Protective primers allowing to weld without their removal	P	СТО	СТО	—	—	—	—
14500000	Type production processes	P	СОПИС	СОПИС	—	—	—	—
14000000MK	CARGO HANDLING GEAR							
14010000MK	Ship derricks:							
14010100MK	structures with fixed gear (masts, columns, gantries, etc.)	—	—	—	—	P	P	—
14010200MK	derrick booms	P	—	C	K	P	P	—

1	2	3	4	5	6	7	8	9
14010300MK	cargo winches, span winches and slewing guy winches; span rope reels and preventer guy reels with drive:	P	—	C	K	P	P	—
14010301	main shafts	P	—	C3	—	—	—	—
14010302	couplings	P	—	C3	—	—	—	—
14010303	frames and casings	P	—	C3	—	—	—	—
14010304	brakes	P	—	C3	—	—	—	—
14010305	ratchets	P	—	C3	—	—	—	—
14010400MK	span rope reels and preventer guy reels without independent drive	P	—	C3	—	—	—	—
14030000MK	Cranes and hoists, upper structures:	P	CTO	C	K	P	P	—
14030100MK	structures of cranes and hoists with permanently attached fixed gear (masts, posts, bell-shaped structures, bridges, gantries, understructures, rocking arms and pull rods of adjustable counterweights, etc.)	—	—	—	—	P	P	—
14030200MK	jibs	P	—	C	K	P	P	—
14030300MK	cargo lifting, luffing, slewing, travelling motion or counterbalance machinery:	P	—	C	—	P	P	—
14030301	main shafts	P	—	C3	—	—	—	—
14030302	couplings	P	—	C3	—	—	—	—
14030303	frames and casings	P	—	C3	—	—	—	—
14030304	brakes	P	—	C3	—	—	—	—
14030305	wheels, rollers	P	—	C3	—	—	—	—
14030306MK	adjustable counterbalances	P	—	C3	—	—	—	—
14030307	hydraulic cylinders	P	—	C3	—	—	—	—
14030308	power hydraulic cylinders	P	—	C3	—	—	—	—
14030309	flexible joints	P	—	C3	—	—	—	—
14030400MK	safety devices (SWL indicators, limit-load switches, hi-jacking devices, limit switches, jib-radius indicators, safety switches, signal devices)	P	CTO	C3	—	P	P	—
14030500MK	metal upper structures: posts, frames, supporting assemblies (jib and axles, etc.), trolleys, jibs, counterbalance attachments and other structures	—	—	—	—	P	P	—
14030600MK	fastenings and supports of derrick when stowed for sea	P	—	—	—	P	P	—
14030700MK	devices damping dynamic loads, stability of derrick against jack-knifing with the ship rolling or load drop	P	—	C	—	P	P	—
14040000MK	Passenger and cargo lifts with lifting capacity 250 kg and over:	P	CTO	C	K	P	P	P
14040100MK	metal structures with all loose gear	—	—	—	—	P	—	—
14040200MK	lift winches:	P	CTO	C	K	P	P	P
14040201	main shafts	P	—	C3	—	—	—	—
14040202	couplings	P	—	C3	—	—	—	—
14040203	frames and casings	P	—	C3	—	—	—	—
14040204	brakes	P	—	C3	—	—	—	—
14040300MK	lift equipment (trunk doors, counterbalances, buffers, safety devices, etc.)	P	—	C3	—	P	P	—
14050000MK	Parts and ropes of cargo handling gear:							
14050100MK	interchangeable components:							
14050101MK	blocks, pulleys, hooks, chains, swivels, shackles, turnbuckles, triangle plates, boom and suspensions, etc.	P	CTO	C3	K	P	P	—
14050102MK	thimbles, ropes sockets and pressed clips	P	CTO	C3	—	—	P	—
14050200MK	fixed gear:							
14050201MK	cargo runner and span eye plates, guy eye plates on boom ends	P	CTO	C3	—	P	P	—
14050202MK	deck eye plates on ship hull structures	P	CTO	C3	—	P	P	—
14050203MK	derrick hel fork lugs	P	CTO	C3	—	P	P	—
14050204MK	span eye plates with shoes	P	CTO	C3	—	P	P	—
14050205MK	heel goosenecks with shoes	P	CTO	C3	—	P	P	—
14050206MK	built in sheaves with strops	P	CTO	C3	—	P	P	—
14050208MK	journals, bearing axles	P	CTO	C3	—	—	P	—
14050300MK	loose gear being part of the ship (slings, spreaders, hoisting crossbars, frames, etc.)	P	—	C3	K	P	P	—
14050301	appliances to convey the personnel (nets, baskets, cradles or other products specially designed for this purpose)	P	—	C	K	P	P	—

1	2	3	4	5	6	7	8	9
14050400MK	ropes (shrouds, stays, cargo runners, span ropes, tackles and slewing guy pendants, preventer guys and boom head guys in union purchase, etc.)	P	—	C3	—	P	P	—
14060000MK	Ship elevating platforms:	P	CTO	C	K	P	P	—
14060100MK	platforms	P	—	C3	—	P	P	—
14060200MK	equipment of platforms (guides, shoes, blocking devices, buffers, fencing and locking mechanisms, mechanical or hydraulic drives)	P	—	C3	—	P	P	—
14060300MK	load-carrying means (ropes and chains with guides and attachments, leverpool system, hydraulic drives, gear racks, spindles)	P	—	C3	—	P	P	—
14060400MK	safety devices	P	—	C3	—	P	P	—
14100000MK	Type production processes	—	—	—	—	—	—	—
15000000	AUTOMATION							
15010000	Integrated automation systems of machinery installations	P	CTO*	C	—	P	P	P
15020000	Centralized alarm and monitoring systems, including computer-based systems	P	CTO	C	—	P	P	P
15030000	Main machinery automated remote control systems:							
15030100	remote control systems of main internal combustion engines	P	—	C	—	P	P	P
15030200	remote control systems of main machinery with CPP	P	—	C	—	P	P	P
15030300	remote control systems of main steam turbine installations	P	—	C	—	P	P	P
15030400	remote control systems of azimuth propulsion thrusters	P	—	C	—	P	P	P
15030500	control systems of ship and MODU dynamic positioning systems	P	—	C	—	P	P	P
15030510	computer-based systems, associated software and interfaces used for automated control systems of the thrusters with the use of the single control device (joystick) or several control devices	P	CTO*	C	—	P	P	P
15030520	operator panel system with controls and data displays	P	CTO*	C	—	P	P	P
15030530	position reference systems	P	CTO*	CTO	—	P	P	P
15030600	control systems of azimuth podded electrical propulsion plant	P	CTO	C	—	P	P	P
15030700	automated control systems of self-elevating MODU jacking mechanisms	P	CTO	C	—	P	P	P
15030800	remote control and monitoring systems of semi-submersible MODU ballast systems	P	CTO	C	—	P	P	P
15030900	remote control systems of azimuth and tunnel thrusters	P	—	C	—	P	P	P
15031000	stabilization and hull-position control systems of high-speed craft	P	CTO	C	—	P	P	P
15040000	Power plant control systems:	—	—	—	—	—	—	—
15040100	remote automated starting and stopping systems of diesel generators	P	—	C3	—	P	P	P
15040200	remote automated starting and stopping systems of turbo-generators	P	CTO	C3	—	P	P	P
15040300	remote automated starting and stopping systems of shaft generators (where coupling control system is provided)	P	—	C3	—	P	P	P
15040400	automated electric power plant systems	P	CTO	C3	—	P	P	P
15050000	Boiler installation control systems:	—	—	—	—	—	—	—
15050100	automated control systems of main boiler installations	P	—	C3	—	P	P	P
15050200	automated control systems of auxiliary steam boiler installations	P	—	C3	—	P	P	P
15050300	automated control systems of exhaust boiler installations	P	—	C3	—	P	P	P
15050400	automated control systems of hot-water boiler installations	P	—	C3	—	P	P	P
15060000	Control systems of auxiliary machinery:	—	—	—	—	—	—	—
15060100	automated control systems of compressors	P	—	C3	—	P	P	P
15060200	automated control systems of separators	P	—	C3	—	P	P	P
15060300	automated control systems of filters	P	—	C3	—	P	P	P
15060400	automated control systems of pumps (oil, fuel, cooling, etc.)	P	—	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
15060500	automated control systems of fuel preparation (temperature, viscosity)	P	—	C3	—	P	P	P
15070000	Remote control of ship systems and remote level gauges:	—	—	—	—	—	—	—
15070100	remote control systems of pumps and valves of ballast and bilge systems and remote level gauges	P	CTO	C	—	P	P	—
15070200	remote control systems of heel and trim systems	P	CTO	C	—	P	P	—
15070300	remote control systems of oil tankers cargo systems	P	CTO	C	—	P	P	—
15070400	remote control systems of gas carriers cargo system	P	CTO*	C	—	P	P	—
15070500	remote control systems of chemical tankers cargo system	P	CTO*	C	—	P	P	—
15080000	Control systems of deck machinery	P	—	C3	—	P	P	P
15090000	Devices:	—	—	—	—	—	—	—
15090100	regulating devices as parts of control systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090200	alarm and monitoring devices as parts of integrated and centralized control and monitoring systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090300	safety devices as parts of the systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090400	recording devices as parts of the systems listed in 15010000 — 15080000	P	CTO	CTO	—	P	P	P
15090500	oil mist detectors in crankcases of internal combustion engines (as well as internal combustion engines bearing temperature monitors or equivalent devices for the prevention of explosion in the crankcase)	P	CTO	C3	—	P	P	P
15090600	computers and programmable logic controllers	P	CTO	CTO	—	P	P	—
15090700	electronic fuel injection and exhaust gas expulsion processes control devices for internal combustion engines	P	CTO	CTO	—	P	P	P
15100000	Regulators of:	—	—	—	—	—	—	—
15100101	level	P	CTO	CTO	—	P	P	—
15100102	pressure	P	CTO	CTO	—	P	P	—
15100103	temperature	P	CTO	CTO	—	P	P	—
15100104	viscosity	P	CTO	CTO	—	P	P	—
15100105	speed	P	CTO	C3	—	P	P	—
15110000	Sensors and indicators of:	—	—	—	—	—	—	—
15110101	level	P	CTO	CTO	—	P	P	—
15110102	pressure	P	CTO	CTO	—	P	P	—
15110103	temperature	P	CTO	CTO	—	P	P	—
15110104	flow	P	CTO	CTO	—	P	P	—
15110105	salinity	P	CTO	CTO	—	P	P	—
15110106	vibration	P	CTO	CTO	—	P	P	—
15110107	position	P	CTO	CTO	—	P	P	—
15110108	external force sensors	P	CTO*	CTO	—	P	P	P
15110110	gas concentration	P	CTO	CTO	—	P	P	—
15119999	others	P	CTO	CTO	—	P	P	—
15120000	Panels, cabinets and other enclosures for:	—	—	—	—	—	—	—
15120100	control systems	P	CTO	CTO	—	P	P	—
15120200	monitoring (alarm and indication) systems	P	CTO	CTO	—	P	P	—
15120300	recording system	P	CTO	CTO	—	P	P	—
15130000	Remote instrumentation	P	CTO	CTO	—	P	P	—
15130100	Equipment diagnostic facilities	P	CTO	CTO	—	—	—	—
15200000	Type production processes	P	CTO	CTO	—	P	P	—
16000000	SHIPS AND BOATS OF GLASS-REINFORCED PLASTIC	—	—	—	—	—	—	—
16010000	Glass-reinforced plastic for hull and lifeboats	P	CTO	CTO	—	—	—	—
16020000	Hull	P	—	C	—	P	—	—
16100000	Type production processes	—	—	—	—	—	—	—
17000000	SHIPS CARRYING LIQUIFIED GASES IN BULK (LG CARRIERS)	—	—	—	—	—	—	—
17010000	Materials	—	—	—	—	—	—	—
17011000	Membrane Cargo Containment System — Mark III:	—	—	—	—	—	—	—
17011100	metal for membranes	—	—	—	—	—	—	—

1	2	3	4	5	6	7	8	9
17011110	stainless steel plates (thickness < 3 mm) (thickness ≥ 3 mm)	P	СПИ	C	K	P	—	—
17011111	stainless steel studs, nuts and washers ⁶	—	—	—	—	P	—	—
17011112	inner hull studs, nuts and washers ⁶	—	—	—	—	P	—	—
17011113	stainless steel /angles	P	СПИ	C3	K	P	—	—
17011114	anchor strips	P	СПИ	C3	K	P	—	—
17011200	non-metallic materials							
17011210	plywood	P	СТО*	СТО	—	P	—	—
17011220	laminate	P	СТО*	СТО	—	P	—	—
17011221	fibrous materials ⁶	—	—	—	—	—	—	—
17011222	glass wool ⁶	—	—	—	—	P	—	—
17011223	glass-fiber materials ⁶	—	—	—	—	P	—	—
17011230	polymeric materials	P	СТО*	СТО	—	P	—	—
17011231	reinforced polyurethane foam (R-PUF)	P	СТО*	СТО	—	P	—	—
17011232	low density foam (LDF)	P	СТО*	СТО	—	P	—	—
17011240	adhesive materials	P	СТО*	СТО	—	P	—	—
17011241	load bearing mastic	P	СТО*	СТО	—	P	—	—
17011242	adhesive, is used for the insulation panel assembly	P	СТО*	СТО	—	P	—	—
17011243	adhesive for secondary barrier	P	СТО*	СТО	—	P	—	—
17011244	adhesive, is used for bonding the secondary barrier to the pump tower base support (PTBS)	P	СТО*	СТО	—	P	—	—
17011250	protective and interlayer materials	P	СТО*	СТО	—	P	—	—
17011251	paint for inner hull protection	P	СТО*	СТО	—	P	—	—
17011260	heat insulation blocks	P	СТО*	СТО	—	P	—	—
17011261	thermal protection ⁶	—	—	—	—	P	—	—
17011262	secondary barrier, rigid secondary barrier material (RSB) and flexible secondary barrier material (FSB) ⁶	—	—	—	—	P	—	—
17011263	top bridge pads ⁶	—	—	—	—	P	—	—
17011264	flat wall panels ⁶	—	—	—	—	P	—	—
17011265	corner panels ⁶	—	—	—	—	P	—	—
17012000	Membrane Cargo Containment System - NO96:							
17012100	metal for membranes							
17012110	Fe-36%Ni alloy strips	P	СПИ	C	K	P	—	—
17012111	staples ⁶	—	—	—	—	P	—	—
17012112	collar studs (forged) ⁶	—	—	—	—	P	—	—
17012113	self-locked nuts ⁶	—	—	—	—	P	—	—
17012114	spring washers ⁶	—	—	—	—	P	—	—
17012200	non-metallic materials							
17012210	plywood (NO96)	P	СТО*	СТО	—	P	—	—
17012220	wood screws ⁶	—	—	—	—	P	—	—
17012230	fibrous materials ⁶	—	—	—	—	—	—	—
17012231	glass wool ⁶	P	—	—	—	P	—	—
17012232	glass-fibre materials ⁶	P	—	—	—	P	—	—
17012240	adhesive materials	P	СТО*	СТО	—	P	—	—
17012241	load bearing mastic ⁶	—	—	—	—	—	—	—
17012242	glue ⁶	—	—	—	—	—	—	—
17012250	protective and interlayer materials	P	СТО*	СТО	—	P	—	—
17012251	anti-sticking film	P	СТО*	СТО	—	P	—	—
17012260	heat insulation blocks	P	СТО*	СТО	—	P	—	—
17012261	thermal protection ⁶	P	—	—	—	P	—	—
17012262	insulating boxes ⁶	P	—	—	—	P	—	—
17012263	insulating material ⁶	P	—	—	—	P	—	—
17012270	perlite ⁶	P	—	—	—	P	—	—
17020000	Valves:							
17020110MK	cargo system valves (working temperature below —55 °C)	P	СТО	C3	K	P	P	P
17020120	pressure relief valves of cargo pipelines	P	СТО	C3	K	P	P	—
17020130MK	pressure relief valves of cargo tank vent system (working temperature below —55 °C)	P	СТО	C3	K	P	P	P
17020140MK	vacuum relief valves of cargo tanks (working temperature below —55 °C)	P	СТО	C3	K	P	P	—
17020210MK	expansion bellows for cargo systems (working temperature below —55 °C)	P	СТО	C3	K	P	P	P
17020310MK	cargo vapour hoses (working temperature below —55 °C)	P	СТО	C3	K	P	P	—

1	2	3	4	5	6	7	8	9
17030000	Auxiliary machinery of cargo systems:	—	—	—	—	—	—	—
17030100	cargo transfer pumps (working temperature below –55 °C)	P	—	C3	K	P	P	P
17030200MK	main cargo pumps (working temperature below –55 °C)	P	CTO	C	K	P	P	P
17030210MK	cargo stripping pumps (working temperature below –55 °C)	P	CTO	C	K	P	P	P
17030300MK	portable emergency cargo pumps (working temperature below –55 °C)	P	CTO	C3	K	P	P	P
17030400MK	high duty compressors	P	—	C	—	P	P	—
17030500MK	low duty compressors	P	—	C	—	P	P	—
17040000	Cargo vapour utilization system:	—	—	—	—	—	—	—
17040100	gas combustion unit (GCU)	P	—	C3	K	P	P	P
17040200	steam dumping arrangement	P	—	C3	K	P	P	P
17050000	cargo pressure and temperature control system	—	—	—	—	—	—	—
17050100	cargo refrigeration plant	P	—	C	K	P	P	P
17050200	cargo reliquefaction plant	P	—	C	K	P	P	P
18000000	NUCLEAR SHIPS AND NUCLEAR SUPPORT VESSELS							
18010000	Ship hull (additionally to non-nuclear ships):	P	—	—	—	P	P	P
18010100	collision structural protection	P	—	—	—	P	—	—
18010200	stranding structural protection	P	—	—	—	P	—	—
18010300	supporting structures and foundations in the reactor compartment	P	—	—	—	P	—	—
18010400	containment structures	P	—	—	—	P	P	—
18010500	safety enclosure	P	—	—	—	P	P	—
18020000	Nuclear reactors:	P	—	C	K	P	P	P
18020100	hulls	P	—	C	K	P	—	—
18020200	roofs with their securing items	P	—	C	K	P	—	—
18020300	removable and non-removable internals	P	—	C	K	P	—	—
18030000	Cores:	P	—	C	—	P	P	P
18030100	fuel elements	P	—	C	—	P	—	—
18030200	fuel assembly	P	—	C	—	P	—	—
18030300	protective covers	P	—	C	—	P	—	—
18030400	rods:	P	—	C	—	P	—	—
18030401	emergency shutdown rods	P	—	C	—	P	—	—
18030402	burnable poison rods	P	—	C	—	P	—	—
18030403	shim rods	P	—	C	—	P	—	—
18030500	working neutron sources	P	—	C	—	P	—	—
18040100	automatic and remote control and protective systems of nuclear reactors	P	—	C	—	P	—	—
18040200	automatic monitoring and alarm systems of nuclear reactors	P	—	C	—	P	P	P
18040300	automatic and remote control, protection, monitoring and alarm systems of NSSS	P	—	C	—	P	P	P
18040400	control, protection, monitoring and alarm devices of NSSS	P	—	—	—	P	P	P
18040401	drives and actuating mechanisms of automatic and remote controls	P	—	C	K	P	P	P
18040402	drives and actuating mechanisms of emergency protection of automatic and remote control	P	—	C	K	P	P	P
18040403	measuring equipment of nuclear reactor power level gauges	P	—	C	K	P	P	P
18040404	thermocouples and resistance thermometers	P	—	C	K	P	P	P
18040405	NSSS parameter transducers	P	—	C	K	P	P	P
18050000	NSSS machinery:							
18050100	primary coolant circulating pumps	P	—	C	K	P	P	P
18050200	fresh water pumps for equipment cooling and protection	P	—	C	K	P	P	P
18050300	sea water pumps for equipment cooling	P	—	C	—	P	P	P
18050500	pumps and ejectors of NSSS space drainage system	P	—	C	—	P	P	P
18050600	pumps of primary coolant make-up system	P	—	C	K	P	P	—
18050700	pumps of emergency core cooling system	P	—	C	K	P	P	—
18050800	pumps of automation hydraulic system	P	—	C	K	P	P	P
18050900	pumps of residual heat removal system	P	—	C	K	P	P	P
18051000	sorber transfer pumps	P	—	C	—	P	P	—

1	2	3	4	5	6	7	8	9
18051100	high-pressure gas compressors	P	—	C	K	P	P	P
18051200	controlled area fans	P	—	C	—	P	P	P
18051300	high pressure air compressors	P	—	C	K	P	P	—
18051400	medium pressure air compressors	P	—	C	K	P	P	—
18051500	vacuum compressors	P	—	C	K	P	P	P
18060000	Heat exchangers and pressure vessels:							
18060100	steam generators:	P	—	C	K	P	P	P
18060101	housings	P	—	C	K	P	—	—
18060102	tube systems	P	—	C	K	P	—	—
18060106	fittings	P	—	C	K	P	P	—
18060200	pressure compensators	P	—	C	K	P	P	P
18060300	filters: primary circuit, primary coolant filling and make-up system, fresh water cooling system, radioactive drainage and process water treatment systems	P	—	C	K	P	P	P
18060400	heat exchangers of fresh water cooling and protection circuit	P	—	C	—	P	P	P
18060500	air coolers	P	—	C	—	P	P	P
18060600	sludge collecting tanks of primary circuit and fresh water cooling and protection system filters	P	—	C	—	P	—	—
18060700	coolers of primary circuit filters	P	—	C	K	P	P	P
18060800	drainage and collecting tanks	P	—	C	K	P	P	—
18060900	gas and air bottles	P	—	C	K	P	P	—
18061000	pneumatic and hydraulic receivers	P	—	C	—	P	P	—
18061100	steel-water protection tanks	P	—	C	K	P	P	—
18061200	first circuit recuperative heat exchangers	P	—	C	K	P	P	P
18070000	NSSS systems:							
18070100	primary coolant circulation system	P	—	—	—	P	P	P
18070200	primary coolant purification system	P	—	—	—	P	P	P
18070300	primary coolant make-up system	P	—	—	—	P	P	P
18070400	residual heat removal system	P	—	—	—	P	P	P
18070500	core emergency cooling system	P	—	—	—	P	P	—
18070600	primary coolant sampling system	P	—	—	—	P	P	P
18070700	deaeration system	P	—	—	—	P	P	—
18070800	primary coolant drainage system	P	—	—	—	P	P	—
18070900	pressure compensation system	P	—	—	—	P	P	P
18071000	secondary circuit	P	—	—	—	P	P	—
18071100	fresh water system for equipment and protection drives cooling	P	—	—	—	P	P	P
18071200	sea water cooling system	P	—	—	—	P	P	P
18071300	ventilation and air filtering system	P	—	—	—	P	P	P
18071400	radioactive liquid and solid collection, storage and handling system	P	—	—	—	P	P	P
18071500	NSSS space drainage system	P	—	—	—	P	P	—
18071600	sorbent handling system	P	—	—	—	P	P	—
18071700	explosive mixture removal system	P	—	—	—	P	P	P
18071800	fitting automation and control hydraulic system	P	—	—	—	P	P	P
18071900	radioactive drainage and process water purification system	P	—	—	—	P	P	—
18072000	pressure reduction in containment	P	—	—	—	P	P	—
18080000	NSSS fittings	P	—	C	K	P	P	P
18090000	Radiation monitoring system and means	P	—	C	—	P	P	P
18100000	Protection means against radioactive radiation and radioactive substance spreading	P	—	C	—	P	P	P
18110000	Liquid radioactive waste treatment equipment	P	—	C	K	P	P	—
18110100	Shielding	P	—	—	—	P	P	P
18110200	Fuel assembly storage facilities	P	—	C	K	P	P	—
18110300	Core handling equipment	P	—	C	K	P	P	—
18120000	Complex of engineering and technical means of physical protection	P	—	C	—	P	P	P
18130000	Rolled products, forgings, castings, pipes for equipment and systems of 1, 2 and 3 safety classes ⁹	P	CIII	C	K	—	—	—
19000000MK	EQUIPMENT AND ARRANGEMENTS FOR THE PREVENTION OF POLLUTION FROM SHIPS							
19020200MK	15 ppm bilge separators (IMO resolution MEPC.107(49))	P	COTO + CTO	C3	—	P	P	P

1	2	3	4	5	6	7	8	9
19030100MK	Oil discharge monitoring and control systems for oil tankers (IMO resolution MEPC.108(49) as amended)	P	COTO + CTO	C3	—	P	P	P
19030202MK	15 ppm bilge alarms (IMO resolution MEPC.107(49))	P	COTO + CTO	C3	—	P	P	P
19040000MK	Oil/water interface detectors in slop tanks	P	COTИ + CTO	C3	—	P	P	P
19050000MK	Pumping, piping and discharge arrangements for oily water	—	—	—	—	P	P	—
19060000MK	Tanks:							
19060100MK	segregated ballast tanks	—	—	—	—	P	—	—
19060200MK	slop tanks	—	—	—	—	P	—	—
19060300MK	cargo tanks	—	—	—	—	P	—	—
19060400MK	holding tanks for oily mixtures	—	—	—	—	P	—	—
19070000MK	Washing systems:	—	—	—	—	P	P	—
19070100MK	washing machine drive units	—	—	C3	—	P	P	—
19080000MK	Incinerators	P	COTO	C3	—	P	P	P
19080100MK	Oil residues processing system (tank for mixing oil residues with fuel oil, oil residues preheating system, homogenization system)	—	—	—	—	P	P	—
19090000MK	Sewage treatment plants (IMO resolution MEPC.227(64) as amended)	P	COTO + CTO	C3	—	P	P	P
19090001MK	Sewage treatment plants (IMO resolution MEPC.159(55))	P	COTO + CTO	C3	—	P	P	P
19100000MK	Sewage comminution and disinfection systems	P	—	C3	—	P	P	—
19110000MK	Sewage holding tanks	—	—	—	—	P	—	—
19140000MK	Garbage treatment plants	P	—	C3	—	P	P	—
19150000MK	Garbage containers	—	—	—	—	P	—	—
19160000MK	Equipment and arrangements for prevention of pollution by noxious liquid substances	P	—	C3	—	P	P	—
19170000MK	Equipment and arrangements for prevention of air pollution							
19170100MK	Exhaust gas cleaning systems to reduce SO _x emissions	P	—	SECC, C3	—	P	—	—
19170300MK	Sampling equipment	P	CTO	C3	—	P	P	—
19210000MK	Oily waters deep purification plants including 5 ppm bilge separator, 5 ppm bilge alarm and automatic stopping device	P	CTO	C3	—	—	—	—
19220000MK	Ballast water management systems (IMO resolution MEPC.174(58))	P	COTO + CTO	C3	—	P	P	P
20000000	COMPUTER SOFTWARE (PROGRAMMES FOR COMPUTER-AIDED CALCULATIONS)							
20100000	Ship theory and strength programmes for computer-aided calculations	P	CTOП	CTOП	—	—	—	—
20200000	Machinery programmes for computer-aided calculations	P	CTOП	CTOП	—	—	—	—
20300000	Electrical equipment and automation programmes for computer-aided calculations	P	CTOП	CTOП	—	—	—	—

¹Type of technical supervision is based on the equipment purpose.

²For type items only.

³"C3" is acceptable for internal combustion engines with a cylinder diameter of 300 mm and under.

⁴In case the set is delivered in assembly.

⁵In case of delivery apart from the set.

⁶Delivery of materials with the manufacturer's certificates. Technical supervision shall be carried out in compliance with the technical documentation approved by the Register.

⁷When a documented quality system covering the process of manufacture, testing, and quality control of the items of technical supervision approved by the Register or recognised competent organization is available at the manufacturer.

⁸Refer to Appendix 8 to Section 5 of Part IV "Technical Supervision during Manufacture of Products".

⁹Division into safety classes — refer to Section 5, Part VIII "Nuclear-Powered Steam Generating Plants" of the Rules for the Classification and Construction of Nuclear Ships and Floating Facilities.

APPENDIX 2

INSTRUCTIONS ON BRANDING OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

1 GENERAL

1.1 These Instructions supplement and explain the RS Nomenclature (refer to Appendix 1).

1.2 In the course of manufacture of certain materials, products and their parts under technical supervision of the RS surveyor to the Register and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part), these materials, products and parts as well as samples taken therefrom shall be branded at certain stages of their manufacture with appropriate brands of the Register.

1.3 Materials, products and parts subject to branding by the Register are identified in the RS Nomenclature.

1.4 The purpose of branding materials, products and parts shall make sure in the course of subsequent surveys that they were properly checked by the Register.

1.5 All the provisions of these Instructions equally refer to all spare parts, irrespective of the fact whether they have been produced for a newbuilding constructed

under the Register standards or to renew the products and parts on ships in service.

1.6 In case it is found in the course of further processing, assembly or installation at the shipyard that the material, product or part is defective or does not comply with the RS rules or other RS normative documents, as well as with the technical documentation approved by the Register, it may be rejected, irrespective of the presence of the RS brand. In this case, the RS brand shall be cancelled.

The cancellation of the brands shall be done in the presence of the RS surveyor, the firm (manufacturer) technical personnel authorized under the Agreement on Survey (CO) to do branding.

1.7 All the provisions of these Instructions equally refer to RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of the this Part), as well as to officials of the firms (manufactures).

2 TYPES OF THE REGISTER BRANDS

2.1 The Register brands are subdivided into the brands of the RS surveyor and those of the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part). The appearance of the brands is the same with a difference that brands of the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) have a line under the brand.

Brands of the RS surveyor shall be used for branding by the RS surveyor, brands of the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) — by the firm

(manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part).

2.2 For branding materials, products and parts, use is made of brands, stamps and punches.

2.3 Brands are used for branding materials, products and parts made of metal or material enabling to put a durable brand imprint.

2.4 The brands may be of preliminary or final nature. The imprints of brands are shown in Figs. 2.4-1 and 2.4-2.

2.5 The preliminary brands of the RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) are put on:



Fig. 2.4-1 Imprint specimens of preliminary brands:

a) — RS surveyor;

b) — the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part)



Fig. 2.4-2 Imprint specimens of final brands and punches:

a) — RS surveyor;

b) — the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part)

.1 test specimens and products, from which these specimens are taken for mechanical tests and examinations;

.2 products and parts, which production process has not been completed, subject to further treatment.

2.6 The final brand of the RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) is put on finished materials, products or parts, manufactured, surveyed and tested in compliance with the RS rules and other RS normative documents and technical documentation approved by the Register.

2.7 In case materials, products or parts bearing brands are rejected, the brand imprint shall be destroyed.

2.8 The RS surveyor's stamp is used for branding with indelible paint of non-metal products made of materials where the brand impression cannot be preserved for a long time, but the area available is enough to put a stamp (lifebuoys, lifejackets, inflatable liferafts, etc.).

2.9 The RS stamp imprint is shown in Fig. 2.9.



Fig. 2.9

Imprint specimen of the RS surveyor's stamp

2.10 In case the product is rejected after a stamp has been put thereon, the whole imprint shall be filled with the indelible paint.

2.11 The RS seals are intended for such products and parts where a brand or stamp cannot be directly placed as well as for sealing safety devices.

2.12 Brand and punch imprints are shown in Fig. 2.4-2.

2.13 In case a product after sealing is rejected, the seal shall be removed.

3 GENERAL INSTRUCTIONS ON BRANDS AND BRANDING

3.1 Presence of brands of the RS surveyor or the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) on the materials and products does not relieve the supplier from presentation of the documents required by the Register.

3.2 The Register does not put its brand on the parts after repair.

3.3 Brands, stamps and sealer punches shall be kept by the RS surveyor and the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) under conditions preventing them from an authorized use.

3.4 Brands, stamps and sealer punches shall be handed in to the RS surveyor by the Head of the RS Branch Office or his Deputy against receipt. In so doing, an imprint of the handed in stamp or punch is made in the statement for their handing. The firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) receive brands, stamps and sealer punches from RHO or the RS Branch Office according to the concluded Agreements on Survey (CO).

3.5 The decision on ordering new brands, stamps and sealer punches is taken by RHO.

3.6 Branding of materials, products and parts shall be done in the presence and upon instructions of the RS surveyor, the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part).

3.7 In case a technical control body is available at the firm (manufacturer), finished materials, products and parts shall be checked and then branded by this technical control body before submission to the RS surveyor.

3.8 The number of cast, ordinal number of the specimen, brand of the technical control body and preliminary brand of the RS surveyor or the firm (manufacturer) technical personnel in accordance with the Agreement on Survey (CO) (refer to 4.5 of this Part) shall be punched on the test specimens produced for testing mechanical properties of materials and samples.

3.9 Brands shall be generally put on materials, products and parts in readily accessible places in such a way that they can be easily found after installation on board the ship.

3.10 All finished products shall be provided with manufacturer's marking, which shall consist of a serial number and the year of manufacture.

The details of manufacturer's marking of some products are given in Section 5.

Marking may be applied on identification plates or directly on the products. The final brand of the Register shall be located underneath the marking on the right-hand side.

Where it is difficult to find the places of marking and brands (plates, rolled products, forgings, castings, etc.), the brand shall be put in the frame made with a contrast paint.

3.11 In branding the products to undergo further machining the brand shall be put in spots, which will not

be machined later. If it is impracticable, the brand shall be transferred in the course of machining as stated in Section 4.

3.12 Finished products and products, which manufacturing process has not been completed and which shall undergo further machining at other firms (manufacturers), in case the products bear the Register brand, shall

be provided with a certificate or another appropriate document.

Such documents shall bear an imprint of the brand (stamp), which has been put on the product. If there is no place specially provided for the imprint, the latter shall be put in the bottom part of the form above the Surveyor's signature.

4 TRANSFER OF BRANDS

4.1 The RS brands shall be preserved in any treatment or assembly of the parts. Where brands shall be cut because of the processing conditions, they shall be transferred to another place. For this purpose manufacturer's marking shall be transferred to a new place, and then the part shall be presented to the RS surveyor for transference of the brand.

4.2 In case the brand shall be transferred in the process of treatment of the part in non-working time of the RS surveyor, the manufacturer shall inform the

RS surveyor in advance, indicating the part and manufacturer's marking.

4.3 In particular cases, the RS surveyor may allow to cut the brand and to transfer manufacturer's marking of the part to a new place under supervision of a firm (manufacturer) supervisor. In such cases, the supervisor shall make an entry in the workshop's log, draw up a report and put his brand on the part.

Based on log entry or report and the firm (manufacturer) supervisor brand, the RS surveyor puts a new RS brand on the part.

5 BRANDING AND MARKING PLACES

5.1 MATERIALS

5.1.1 Marking of the materials shall be done in accordance with the firm (manufacturer) current regulations with a mandatory account of the requirements of the RS rules.

5.1.2 Steel plates, every one of which requires to be tested according to the RS rules, are subject to mandatory branding.

Branding of other steels is done in cases specially provided by the Register or on customer's request.

5.2 CASTINGS

5.2.1 Gated samples or castings in places where specimens are taken shall be marked with the Register preliminary brand.

5.2.2 In case of separately cast samples, poured together with the specimens are steel tags, on which the numbers of the cast and pouring wherefrom specimens are taken, shall be punched by the technical control body of the firm (manufacturer). Upon extraction of the samples out of the mould the Register preliminary brand shall be put thereupon.

5.2.3 Upon satisfactory results of the specimen tests and survey a preliminary brand of the Register is put on one of the casting ends, next to the number of the cast.

5.3 STEEL FORGINGS

5.3.1 Upon satisfactory results of the specimen tests and survey, a preliminary brand of the Register is put on one of the forging ends, next to the number of the cast.

5.4 SHIP'S ARRANGEMENTS

5.4.1 Steering gear.

5.4.1.1 Upon completion of bench tests of the gear (engine) at the firm (manufacturer) the final brand of the Register is put on the manufacturer's plate of the steering gear.

The rudder stock moment value shall be mandatorily indicated on the manufacturer's plate.

5.4.1.2 The final brand of the Register is put on the following places of finally processed rudder stocks, rudder spindles of "Simplex" type and pintles: upper butt surface of rudder stocks, flange surface of rudder spindles of "Simplex" type and upper butt surface of the pintles.

5.4.2 Anchor arrangement.

Upon completion of bench tests of windlasses and anchor capstans at the firm (manufacturer), the final brand of the Register is put on the manufacturer's plate of windlasses and anchor capstans.

The chain cable diameter shall be mandatorily indicated on the manufacturer's plate.

5.4.3 Anchors.

5.4.3.1 The following data shall be punched or cast on every anchor in places specially provided for marking (of circular or square shape): the firm (manufacturer) trademark, mass of the anchor in assembly, manufacturer's number, final brand of the Register — in circle; year of test and final brand of the Register — in square.

5.4.3.2 On Hall's anchors, the circle for marking shall be provided on one of the anchor flukes, the square — on the other fluke and in the upper part of the anchor shank. The mass of the assembled anchor shall be additionally cast or punched on the shank.

5.4.3.3 On admiralty anchors, all the marking shall be punched in place where the shank is attached to the flukes; on welded anchors — on the fluke below the welding line. The mass of the anchor shall be punched on the stock.

5.4.4 Anchor chain cables.

The marking of chain cable shall be done on end links of every length and shall include the certificate number, chain cable grade and the Register brand. The location of marking shall be as shown in Fig. 5.4.4.

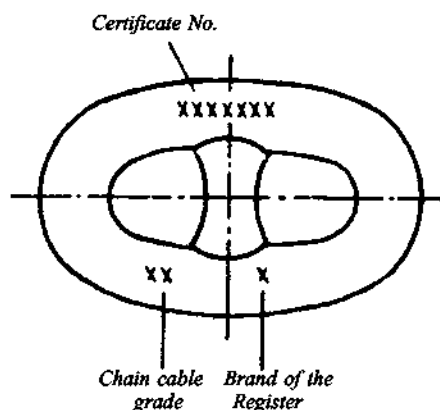


Fig. 5.4.4

Every part of the chain cable shall be marked, the marking shall include the certificate number, chain cable grade and the Register brand.

5.5 LIFE-SAVING APPLIANCES

5.5.1 Launching appliances.

5.5.1.1 Upon testing and survey of davits or other launching appliances the following shall be marked thereupon:

- permissible working load;
- date of test;
- final brand of the Register.

5.5.1.2 Upon completion of all the required tests and surveys all life-saving appliances shall be marked in order as set forth under 5.5.2 to 5.5.6.

5.5.2 Lifeboats.

5.5.2.1 On each side of the lifeboat's bow the following information shall be marked:

the number of persons, for which the lifeboat is approved (in clear permanent characters with the indelible paint);

the name and port of registry of the ship, to which the lifeboat belongs (in block capitals of the Roman alphabet).

Marking permitting to identify the ship, to which the lifeboat belongs, and the lifeboat number shall be made in such a way that it is visible from above.

5.5.2.2 On exterior of every lifeboat in accessible place above the waterline a metal plate made of anti-corrosive material shall be secured containing the following data:

manufacturer's name or trademark;

number of Type Approval Certificate (CTO) with "RS" letters and number of the certificate issued by the Register to the lifeboat;

serial number;

number of persons permitted to be accommodated;

date of survey;

final brand of the Register.

5.5.3 Rigid and inflatable liferafts.

5.5.3.1 On the exterior of every liferaft the following information shall be permanently marked with the indelible paint:

name and port of registry of the ship, to which the liferaft belongs (for inflatable liferafts, name and port of registry of the ship shall be marked in such a form that the ship identification can be changed anytime without opening the container);

number of persons permitted to be accommodated over each entrance in characters not less than 100 mm in height of a colour contrasting with that of the liferaft;

word "SOLAS" and type of emergency pack enclosed (for rigid liferafts);

launching instructions (for rigid liferafts);

length of painter (for rigid liferafts);

maximum permitted height of stowage above waterline (for rigid liferafts).

5.5.3.2 On the inner side of every liferaft the plate made of the material, which does not become unfit for use throughout the service life of the liferaft, shall be secured, containing the following information marked with the indelible paint or in some other suitable way:

manufacturer's name or trademark;

serial number;

number of the certificate issued by the Register to the liferaft with "RS" letters;

date of manufacture (month and year);

final brand or stamp of the Register;

name and place of serving station where it was last surveyed (for inflatable liferafts).

5.5.4 Containers for inflatable liferafts.

In the area of a pocket of a soft container or next to a lock of a rigid container the following information shall be marked with the indelible black or other contrasting colour paint:

- manufacturer's name or trademark;
- serial number;
- "RS" letters and number of Type Approval Certificate (CTO);
- number of persons permitted to be accommodated;
- word "SOLAS";
- type of emergency pack enclosed;
- date and place of the latest servicing;
- length of painter;
- maximum permitted height of stowage above waterline;
- stamp of the Register.

5.5.5 Lifebuoys.

On the flat part of lifebuoys the manufacturer's name or its trademark, the date of manufacture, number of Type Approval Certificate (CTO) with "RS" letters and the RS stamp shall be marked with the indelible paint.

5.5.6 Lifejackets, immersion suits, antiexposure suits and thermal protective aids.

In conspicuous places of lifejackets, immersion suits, antiexposure suits and thermal protective aids manufacturer's name or its trademark the date of manufacture, number of Type Approval Certificate (CTO) with "RS" letters and the Register stamp shall be marked with the indelible paint.

5.5.7 Rescue/fast rescue boats (rigid, inflated and combined).

Marking and branding of rescue/fast rescue boats shall comply with the requirements of 5.5.2, except that the metal plate mentioned in 5.5.2.2 shall be secured on the inner side of the upper part of the boat transom.

5.5.8 Hydrostatic release units.

Hydrostatic release unit shall be permanently marked on its exterior or have identification plate made of anti-corrosive material, which does not become unfit for use throughout the service life of the unit, securely attached to the unit, with the following data:

- manufacturer's name or trademark;
- type of the unit;
- serial number;
- number of Type Approval Certificate (CTO) with "RS" letters;
- date of manufacture;
- whether the unit is suitable for use with a liferaft with a capacity of more than 25 persons;
- if disposable, exact expiry date shall be marked.

5.5.9 Automatic gas inflation system for inflatable liferafts, marine evacuation systems, means of rescue.

5.5.9.1 Automatic gas inflation system shall be permanently marked on a securely attached identification plate made of anti-corrosive material, which does not become unfit for use throughout the service life of the system, with the following data:

- manufacturer's name or trademark;
- type of the system;
- serial number;
- number of Type Approval Certificate (CTO) with "RS" letters;
- date of manufacture.

5.5.9.2 On the upper spherical or cylindrical part of the pressure vessels upon completion of hydraulic tests the following information shall be clearly marked:

- firm (manufacturer) trademark;
- manufacturer's number;
- capacity or working pressure;
- date of last testing;
- final brand of the Register.

5.5.10 Means of rescue.

5.5.10.1 An inflatable means of rescue shall be marked as set forth under 5.5.3.2. The marking shall contain also the number of persons permitted to be accommodated. Provision shall be made for marking the inflatable means of rescue with the name and port of registry of the ship, to which it belongs, so that the ship identification can be changed anytime without opening the container.

5.5.10.2 A rigid means of rescue shall be marked with the following data:

- manufacturer's name or trademark;
- serial number;
- number of the certificate issued by the Register to the raft with "RS" letters;
- word "SOLAS";
- number of persons permitted to be accommodated;
- maximum permitted height of stowage above waterline;
- launching instructions.

5.5.11 Marine evacuation system.

5.5.11.1 In addition to the data set forth under 5.5.3.2, the capacity of marine evacuation system shall be marked.

5.5.11.2 The container for marine evacuation system shall be indelibly marked with the data set forth under 5.5.4, except that in lieu of the number of persons permitted to carry, the capacity of the marine evacuation system and the date of manufacture are marked, while the type of emergency pack enclosed and the length of painter are not marked.

5.5.12 Lifebuoy self-igniting lights and self-activating smoke signals, lifejacket lights, external and internal lights of lifeboats and liferafts, lights of rescue/fast rescue boats, sea-water-activated sources of energy, food ration, water in receptacles, searchlights of life- and rescue boats, boat's compasses, line-throwing appliances.

The following information shall be marked on the above products or packing thereof:

- manufacturer's name or trademark;
- type of product;
- number of Type Approval Certificate (CTO) with "RS" letters;

date of manufacture;
if disposable, exact expiry date shall be marked or
date when it shall be renewed.

5.6 MAIN DIESEL ENGINES, AUXILIARY DIESEL ENGINES WITH POWER OUTPUT 55 kW AND OVER

5.6.1 Upon completion of bench tests of the engines at the firm (manufacturer), elimination of all faults found and check tests, the final brand of the Register is put on the manufacturer's plate.

5.6.2 Crankshafts.

5.6.2.1 Forgings intended for manufacture of crankshafts shall be delivered for machining with the preliminary brand of the Register and a certificate (if forgings are produced by another firm (manufacturer));

5.6.2.2 Where the crankshaft is adequately big, manufacturer's marking and final brand of the Register on the machined crankshafts shall be put on the cylindrical surface of the crankshaft coupling flange.

Where the surface area is not enough, the marking shall be made on the outer side of the crank web first after the coupling flange.

Each section of built-up crankshafts shall be branded using the same principle from the side nearest to the coupling flange.

5.6.2.3 Each pin or journal in built-up crankshafts shall be checked and marked with the Register preliminary brand on the butt; the webs — on the outer side in the area of boring for the journal.

5.6.2.4 On every junction of built-up crankshafts, on webs and journals or pins, along with common manufacturer's marking, numbers of junctions shall be marked.

5.6.3 Connecting rods.

The manufacturer's marking and final Register brand on adequately big connecting rods shall be put on the front part of connecting rod foot, in case the area is not enough — on the side of the foot.

5.6.4 Piston rods.

The Register final brand shall be put on the flange or below the taper part of the piston rod in the area where it is attached to the piston.

5.6.5 Crossheads.

The Register final brand shall be put next to the manufacturer's marking.

5.6.6 Pistons.

The Register final brand shall be put next to the manufacturer's marking.

5.6.7 Cylinder liners.

The Register final brand shall be put on the top butt part of the cylinder shoulder.

On big engine liners where the shoulder is not sunken in the block, the brand may be put on the side surface of the shoulder.

5.6.8 Cylinder blocks.

The Register final brand shall be put on the side surfaces of blocks on the areas specially allocated for the manufacturer's marking, and in case no special area is provided, on the machined side surface of the cylinder block, nearest to the coupling flange (coupling) of the crankshaft.

5.6.9 Cylinder covers.

Where the total surface of the cover is machined, the manufacturer's marking and the Register final brand shall be put on that surface.

5.6.10 Bedplates, crankcases, columns.

The Register final brand shall be put on specially allocated areas, and in case no provision is made for such areas, on a readily visible place next to the manufacturer's marking.

5.7 MAIN STEAM TURBINES AND ELECTRIC GENERATOR TURBINES

5.7.1 Upon completion of bench tests at the firm (manufacturer), elimination of all faults found, the Register final brand is put on the manufacturer's plate of the geared turbine installation or a turbine.

5.7.2 Rotors and shafts.

5.7.2.1 Forgings intended for manufacture of rotors and shafts shall be delivered for machining with the preliminary brand of the Register and a certificate (if forgings are produced by another firm (manufacturer));

5.7.2.2 After final assembly of all blading stages and balancing the Register final brand shall be put on the rotor flange generatrix.

5.7.3 Turbine casings.

The Register final brand shall be put on the generatrix of the horizontal joint flange after assembly of the casing with the rotor.

5.7.4 Manoeuvring gear casings, nozzle boxes.

The Register final brand shall be put on the generatrix of the horizontal joint flange.

5.8 MAIN GAS TURBINE PLANTS AND GAS TURBINES OF ELECTRIC GENERATORS

5.8.1 Upon completion of bench tests at the firm (manufacturer), elimination of all faults found, the Register final brand is put on the manufacturer's plate of the gas turbine installation (turbine).

5.8.2 In the course of production of the gas turbine installation, after final assembly and checking casings of turbines, compressors and combustion chambers, rotors, shafts, discs shall be branded by the Register.

The brand shall be put next to the manufacturer's branding.

5.9 GEARS AND DISENGAGING COUPLINGS OF MAIN MACHINERY

5.9.1 Upon completion of the bench tests at the firm (manufacturer) and satisfactory results thereof, the Register final brand is put on the manufacturer's plate of the gear.

5.9.2 Pinions and wheels.

The Register final brand is put on the generatrix of the pinion and wheel flange, and if there is no flange — on the shaft butt. Such branding is done upon completion of assembly of the whole gear and checking the teeth by blueing. The preliminary brand is put in case of intermediate checkings.

5.9.3 Shafts of reduction gears and couplings.

The Register final brand is put on the cylindrical surface of the coupling flange.

5.9.4 Casings of reduction gears and couplings.

The Register final brand is put on the horizontal flange of the casing joints of reduction gears and couplings.

year of manufacture;
manufacturer's number;
boiler index;
working steam pressure in the boiler;
superheated steam temperature;
steaming capacity, for fire-tube boilers — heating surface area;
final brand of the Register.

5.11.2 The Register final brand is put after hydraulic tests at the firm (manufacturer).

5.11.3 Main parts of the boiler, namely: shells, headers (chambers) after completion of hydraulic tests as well as combustion chambers, furnaces, stays before assembly shall be surveyed and marked with the Register preliminary brand.

In case the boiler components are produced at the same firm (manufacturer) where a boiler is assembled, branding of the above components is not mandatory.

5.11.4 Safety valves of the boilers shall be finally tested on board, one of them shall be sealed by the Register.

5.10 SHAFTING AND PROPELLERS

5.10.1 Forgings intended for manufacture of thrust, intermediate and propeller shafts shall be branded with the Register preliminary brand.

5.10.2 Finally machined thrust, intermediate and propeller shafts (including CPP shafts) shall be marked with the Register final brand on the cylindrical surface of the flanges. Where there are no flanges, the brand shall be put on the shaft butt.

5.10.3 The Register final brand on solid propellers shall be put on the side surface of the hub under the manufacturer's marking, which includes the firm (manufacturer) trademark, pitch and diameter of the propeller, direction of rotation.

5.10.4 The Register final brand on built-up propellers shall be put on the hub and outside surface of each blade flange or on the hub root in the area of the shank (for CPP). The manufacturer's marking of the hub is similar to that referred to in 5.10.3. The whole CPP shall be branded with the Register final brand on the manufacturer's plate of the machinery pitch control gear.

5.11 BOILERS

5.11.1 On the non-removable parts of the boiler front, in a conspicuous place readily accessible for inspections the manufacturer's plate shall be secured containing the following data:

firm (manufacturer) trademark;

5.12 AIR RECEIVERS

5.12.1 On the upper spherical or cylindrical (depending on the bottle size) part of the air receiver casing the following data shall be clearly marked:

firm (manufacturer) trademark;
year of manufacture;
manufacturer's number;
air receiver index;
working pressure;
capacity;
final brand of the Register.

5.12.2 The Register final brand is put on the air receiver upon completion of hydraulic tests at the firm (manufacturer).

5.12.3 In case end plates or cylindrical parts of air receivers are produced at another manufacturer, they shall be branded with the Register preliminary brand.

5.12.4 Safety valves installed on air receivers shall be tested and sealed by the Register.

5.13 MACHINERY, PRESSURE VESSELS AND APPARATUS OF REFRIGERATING PLANTS

5.13.1 The Register final brand is put on the manufacturer's plate of compressors and refrigerant pumps upon completion of bench tests at the firm (manufacturer).

5.13.2 The Register final brand is put on the manufacturer's plate of pressure vessels and apparatus working under a refrigerant pressure upon completion of

hydraulic and air tests with satisfactory results at the firm (manufacturer).

5.13.3 Safety valves installed on the pressure vessels and apparatus working under a refrigerant pressure shall be tested and sealed by the Register.

5.14 ELECTRICAL EQUIPMENT

5.14.1 The Register final brand is put on the plates of generators, motors, electromagnetic couplings upon completion of the required surveys and tests at the firm (manufacturer).

5.15 SIGNAL MEANS

5.15.1 In a conspicuous place on each navigation and flashing lantern the Register final brand is put and manufacturer's plate shall be secured containing the following data:

- firm (manufacturer) trademark;
- lantern designation;
- lantern index;
- sequence number;
- year of manufacture.

5.15.2 Directly on every sound signal means, such as whistle, typhon, horn, hong, bell the following shall be marked:

- firm (manufacturer) trademark;
- sequence number;
- year of manufacture;
- final brand of the Register.

5.15.3 Pyrotechnic signal means (rocket parachute flares, signal rockets, hand flares).

Every pyrotechnic signal means shall be marked with the following data in Russian and English:

- manufacturer's name or trademark;
- name of the product;
- brief instructions or diagrams clearly illustrating how it shall be operated;
- number of Type Approval Certificate (CTO) with "RS" letters;
- date of manufacture;
- date of its expiry or date when it shall be renewed.

5.16 CARGO HANDLING GEAR

5.16.1 Cargo handling gear shall be marked in compliance with the provisions of Sections 7 and 11 of the Rules for the Cargo Handling Gear of Sea-Going Ships.

See Circular 1143c

See Circular 1177c

PART II. TECHNICAL DOCUMENTATION

1 APPLICATION

1.1 The provisions of the present Part are applied in review of the technical documentation on construction of ships and manufacture of materials and products for ships subject to the Register technical supervision in compliance with the General Regulations for the Classification and Other Activity.

1.2 These provisions are also applied in review of the technical documentation on conversion, modernization, restoration and repair of the items of technical supervision as far as it is practicable and reasonable.

2 DEFINITIONS AND EXPLANATIONS

2.1 Definitions and explanations related to the general terminology of the RS rules are given in 1.1, Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships.

Terms and definitions used in the present Part and related to the technical documentation are given in Section 1, Part I "General Regulations for Technical Supervision" of the present Rules.

3 GENERAL

3.1 Construction of ships and manufacture of materials and products for ships shall be in compliance with the technical documentation approved (agreed) by the Register.

3.2 Review (expertise) of the technical documentation aims at verification of the compliance of the items of technical supervision with the RS requirements.

3.3 Technical documentation on items of technical supervision shall be submitted to the Register for review and approval (agreement) prior to the commencement of construction (manufacture) of the items.

Documents shall be in the Russian or English language.

Documents shall be submitted in electronic form in PDF format (on CD, by e-mail, via FTP-server or in a different way agreed with the Register).

3.4 Technical documentation submitted to the Register for review shall be prepared in such a way or supplied with such additional information that enables to make sure that the appropriate provisions of the RS rules and international conventions and agreements are fulfilled.

3.5 For class assignment to a ship under construction the plan approval documentation, as stated in 3.1.2, Part I "Classification" of the Rules for the Classification and Construction of Sea-Going Ships, 3.1.2, Part I "Survey Regulations" of the Rules for the Equipment of Sea-Going Ships, and in other rules for the classification and construction of specialized types of ships and fixed offshore platforms (refer to 1.3 of General Regulations for the Classification and Other Activity) shall be submitted to the Register for approval.

The scope of technical documentation for ships and products of special design and purpose is subject to agreement with the Register in each particular case.

Standards on individual materials and products agreed with the Register may substitute the relevant part of the documentation or documentation as a whole.

3.6 Where novel engineering solutions are used, and for the purpose of feasibility studies, tendering process, etc., the performance specification, draft proposal, tender documentation, conceptual design, engineering analysis procedure as well as experimental design and research developments (Front End Engineering Design, etc.) and other documentation of high degree of novelty may be submitted to the Register for review. Such documents are not subject to approval, and on the results of their review a written conclusion (expert opinion) of the Register is compiled (refer to 8.5).

On the customer's request, the Register may review the above technical documentation as part of "Approval in Principle" (AIP) service. With regard to this service, the written conclusion (expert opinion) contains the additional information including, but not limited to, the following:

- list of actions with respect to the project aimed at obtaining the RS approval;

- information on new RS requirements to be implemented at subsequent stage of the documentation review;

- list of restrictions and conditions of use for the proposed new engineering solutions based on their engineering evaluation and research results.

Due to the novelty of the proposed engineering solutions, the scope of technical documentation sub-

mitted to the Register, and the actions required for rendering AIP service are subject to agreement between the customer and the Register in each particular case.

Technical documentation shall contain general information on the item, drawings, specifications, engineering analysis results, test reports, etc., where applicable.

3.7 The Register reviews and agrees the Russian standards (national standards and standards of organizations) as well as standards of other countries and international standards containing norms and requirements for items of the Register technical supervision.

Standards of another country are agreed upon when they are officially submitted by a state organization of the country for agreement.

In case standards of another country are submitted together with the technical documentation on items of the Register technical supervision, they are reviewed as part of that documentation, and a possibility of their application in each case is confirmed by the approval of the technical documentation without agreement of the standards themselves.

The main provisions concerning agreement of standards and other normative documents are stated in Section 7.

3.8 Calculations necessary for determination of parameters and values regulated by the RS rules shall be made in compliance with the provisions of these rules or according to the standards, methods and other normative documents agreed by the Register.

The procedures and methods of calculations used shall provide an adequate accuracy of the problem solution.

Computer-aided calculations shall be made in accordance with the programs having type approval of the Register.

The Register does not check the correctness of computing operations in calculations, including those made according to the programs having type approval of the Register but examines only the final results of the calculations. In separate cases, the Register may conduct additional expertise of the accuracy of the final results.

The main provisions concerning approval of computer-aided calculation programs and agreement of calculation procedures are stated in Section 12.

3.9 Amendments made in the technical documentation approved (agreed) by the Register and dealt with the fulfillment of the RS requirements shall be submitted to the Register for review prior to their implementation (refer to Section 10).

3.10 In case the submitted technical documentation shows full (or recognized by the Register as adequate) compliance of the items of supervision with the RS requirements, this documentation is approved (agreed).

The documentation, which does not meet the RS requirements, is returned to the design office for further work and/or updating.

3.11 The fact that the documentation is approved (agreed) is acknowledged by putting on it the appropriate stamps of the Register (refer to 8.3).

Approval (agreement) relates only to the technical documentation covered by the RS requirements.

3.12 Where technical documentation contains technical solutions that differ from those regulated by the RS rules (deviations) or alternative design and arrangements, the design office shall submit to the Register technical justification for such solutions. The deviations agreed upon by the Register shall be included in the List of Deviations. The information on the alternative design and arrangements agreed upon by the Register shall not be included in the List of Deviations, if any.

3.13 Approval of the technical documentation by any RS Branch Office is valid for all other RS Branch Offices. Such approval may be (in case of proper reasons) cancelled or altered only by the RS Branch Offices, which approved the documentation, as well as a higher RS Branch Office up to RHO.

The technical documentation approved by one of the Register Branch Offices is accepted by other RS Branch Offices for carrying out technical supervision without additional approval of the documentation concerned, provided no updating is required by the production conditions of the particular firm (manufacturer).

3.14 The differences of principle on the technical documentation shall be finally resolved by:

.1 RHO in relation of technical designs, plan approval documentation, specifications and normative documents;

.2 the RS Branch Offices in relation to detailed design documentation.

3.15 The Register charges fees for review of the technical documentation in accordance with its current tariffs (irrespective of the results of review).

3.16 All the documentation submitted to the Register for review is confidential and may be handed over to a third party only upon the written consent of its legal owner.

4 TECHNICAL DOCUMENTATION ON SHIPS

4.1 Plan approval documentation, technical designs, projects involving major conversions of ships, passage of ships, as well as the documentation stated in 3.6 and 3.7 are subject to review and approval by RHO or by the RS Branch Office when duly authorized by RHO.

Detailed design documentation for a ship under construction, the projects involving minor conversion (outfitting, modernization) as well as technical documentation on ships of less than 100 gross tonnage (excluding high-speed craft, passenger ships, tankers, tugs, ships designed for carriage of dangerous goods, pleasure craft with passenger capacity more than 12) shall be reviewed by the RS Branch Offices without the RHO authorization.

4.2 Requests for review of technical documentation shall be sent to the relevant RS Branch Office depending on the type of the documentation according to 4.1.

A request shall contain the following information:

project number;

ship type;

ship purpose;

ship main particulars;

date of contract for construction of the ship or series of sister ships, as well as hull numbers (i.e. order numbers) of all ships included in the contract, with indication of optional ships;

confirmation that the organization has been familiarized with the General Conditions for Rendering Services by Russian Maritime Register of Shipping;

guarantee of payment for the RS services.

4.3 Plan approval documentation, technical designs, as well as the documentation stated in 3.6 submitted for the Register approval shall be reviewed by the Register for compliance with the RS requirements in effect on the date of signing the contract for construction of a ship (series of ships).

In the absence of the contract for construction the documentation shall be reviewed for compliance with the RS requirements in effect on one of the following dates, as applicable:

.1 keel laying date or the date on which the ship was at a similar stage of construction;

.2 the date of the customer's request for documentation review by the Register (if the terms of construction of the ship (series of ships) are not known yet).

In case of 4.3.2, and if new RS requirements came into force on the date of signing the contract for construction of the ship (series of ships), or on the keel laying date, or on the date on which the ship was at a similar stage of construction (in the absence of the contract for construction), the documentation shall be amended in compliance with these new requirements.

4.4 Technical documentation shall be submitted in electronic form according to 3.3.

Documentation shall be submitted with a covering letter with a list of documents to be submitted for review attached.

On the Register request, the designer shall submit additional documents to support and explain the solutions adopted in the design.

Submission of the documentation by separate parts (on hull, machinery, systems, electrical equipment, etc.) may be allowed on agreement with the Register. In so doing, specification and general arrangement plans shall be submitted together with the first portion of the documentation, as well as the complete list of documents to be submitted for review.

4.5 In general, the Register review of the documentation set stated in 4.1 takes 30 working days.

In case the documentation is submitted by parts, its review takes 30 working days from the date of receiving the last portion.

Duration of the documentation review may be reduced upon agreement with the Register in each particular case.

The procedure, place, terms and other conditions of detailed design documentation review by the Register shall be determined upon agreement with the RS Branch Office responsible for review of detailed design documentation.

5 TECHNICAL DOCUMENTATION ON PRODUCTS

5.1 RHO or the RS Branch Offices, if duly authorized by RHO, review and approve the technical documentation on the products against which description symbols "CTO*", "C*", or "C3*" are indicated in columns 4 and 5 of the RS Nomenclature (refer to Appendix 1, Part I "General Regulations for Technical Supervision"), as well as on new products, which are not regulated by the RS rules and have not been used before in shipbuilding and ship machine building.

The technical documentation on the items shown under other letters in the RS Nomenclature may be reviewed and approved by the RS Branch Offices without the RHO authorization.

5.2 The design documentation shall be submitted to the Register in triplicate, detailed design documentation — in duplicate.

It is allowed to submit documentation in electronic form according to 3.3.2.

5.3 In case products or their parts or assemblies indicated in the RS Nomenclature are produced in compliance with standards, the standards shall be agreed upon with the Register in accordance with Section 7.

5.4 The technical documentation on the products of assembly unit types or on sets of products, etc., which include the component parts indicated in the RS Nomenclature and supplied by subcontractors (generators, reduction gears, prime movers of generators, compressors, pumps, deck machinery, automation systems, etc.) is approved after approval by the Register of the technical documentation on the component parts.

In particular cases, the Register may approve the technical documentation on assembly units, the technical documentation of which component parts does not have the Register approval, provided satisfactory results of testing component parts together with assembly units show their suitability for on board operation (mechanical

and climatic tests) and their electromagnetic compatibility (for electrical and electronic equipment).

5.5 Where the products are designed not as type products but for a particular ship, the technical documentation on such products is generally reviewed by the Register within the ship technical documentation.

5.6 Where use is made of type products manufactured in accordance with the technical documentation approved by the Register, the latter reserves the right for additional review of their possible use within the particular ship project.

5.7 In case the technical documentation for the products is presented for review and approval complete with the ship design (upon the agreement with the firm (manufacturer)), the results of its review are communicated to the designer by a separate letter.

5.8 The products referred to in the RS Nomenclature and intended for repairs and supply of the ships with spare parts shall be manufactured according to the technical documentation approved by the Register.

5.9 In case the technical documentation on spare parts for products in service is developed anew, the developer of the documentation shall present it to the RS Branch Office, in which area the documentation developer is located, for review and approval together with the information, which confirms the compliance of the design and materials of spare parts to the specifications of these products.

Technical documentation submitted to the Register for approval shall be reviewed for compliance with the requirements of the RS rules being in force on the date of contract for manufacture of the products.

5.10 Additional requirements for submitting the ICE documentation to the Register for review and approval are given in Appendices 2 and 3 to Section 5 "Machinery" of Part IV "Technical Supervision during Manufacture of Products".

6 TECHNICAL DOCUMENTATION ON MATERIALS

6.1 Technical documentation on materials shall be submitted for review and approval to RHO or, if so instructed by RHO, to the RS Branch Offices in duplicate.

It is allowed to submit documentation in electronic form according to 3.3.2.

6.2 Documentation shall be submitted as standards, specifications and similar documents containing necessary information on the production procedure, chemical composition, mechanical and technological properties,

scope of tests and testing procedures, drawing-up of the test results and marking procedure.

6.3 Where materials are manufactured in accordance with the standards, the latter shall be reviewed and agreed upon in compliance with Section 7.

6.4 Provisions of 5.5 — 5.9 concerning the products are also applicable to materials as far as it is practicable and reasonable.

7 NORMATIVE DOCUMENTS

7.1 National standards and guidelines, as well as international standards (refer to 3.7) shall be submitted for review to RHO; standards of organizations and other normative documents — to the appropriate RS Branch Offices situated within the area of their operation.

Standards of another country are considered by RHO or the RS Branch Office, if duly authorized by RHO.

7.2 All wordings of the normative documents shall be submitted for review but only the final wording of the document shall be agreed upon.

7.3 The Register compiles a written conclusion (opinion) on the first and intermediate wordings of the normative documents, which is sent to the document developer, and the documents are kept for the Register files.

7.4 Where drawings have been produced, calculations made and other documents compiled as well as various tests carried out for the purpose of development or revision of the normative document, the Register may

require these documentation and test results to be submitted for review.

7.5 Where it is found in the course of the normative document review that the content of the documentation is not in full compliance with the RS requirements, the Register may require the additional documentation to be submitted for review or additional tests to be carried out.

7.6 When the normative documents are reviewed and agreed upon, one shall be guided by the following:

.1 newly developed documents for the items subject to the Register technical supervision during manufacture are agreed upon by the Register, provided their requirements are at least as stringent as those of the RS requirements;

.2 where the requirements of the previously published documents do not meet the RS requirements, their application is subject to special consideration of the Register. In the subsequent revision of these documents, their requirements shall be brought in compliance with the RS requirements.

8 PREPARATION OF RESULTS OF TECHNICAL DOCUMENTATION REVIEW

8.1 Upon results of the technical documentation review, the Register puts the appropriate stamps on the documents and/or compiles a conclusion letter.

When reviewing the technical documentation in electronic form, stamping is carried out by software tools and is certified by digital signature of the Register authorized specialist.

8.2 The Register applies the following stamps (refer to Figs. 8.2-1 — 8.2-6).

8.3 The stamp to be applied is determined by the Register depending on a document type and result of its review.

Upon approval (agreement) of the technical documentation, the Register puts the appropriate stamps, namely:

.1 stamps shown in Figs. 8.2-1 and 8.2-2 are put on the structural drawings, (basic and functional) circuits, test programs, other similar documents;

.2 stamps shown in Figs. 8.2-3 and 8.2-4 are put on the list of deviations from the RS rules, various calculations, descriptions, technical backgrounds, ship specifications and general view drawings without indication of structural dimensions, lists of products and materials (applied), lists of spare parts, research reports and test results, etc, as well as on the normative documents (standards, including the shipyard and firm (manufacturer) standards, regulations, etc.);

.3 stamps shown in Fig. 8.2-5 are put on the documents approved on behalf of Administrations.

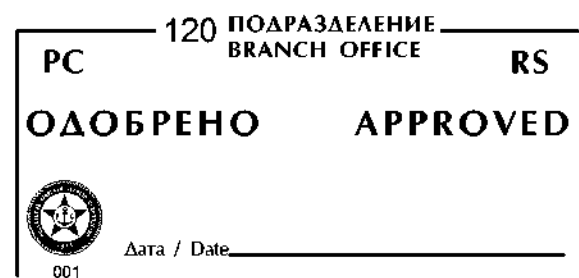
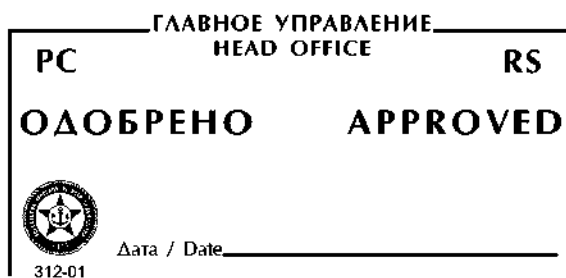


Fig. 8.2-1

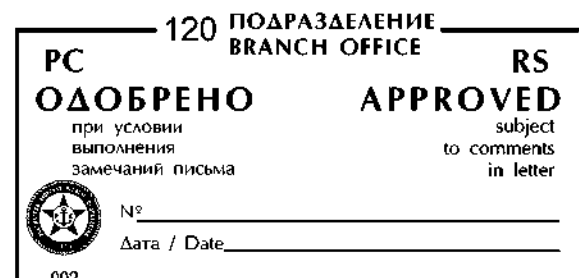
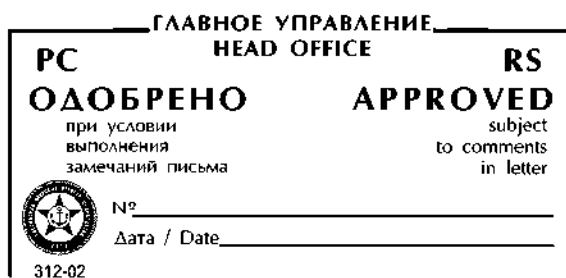


Fig. 8.2-2

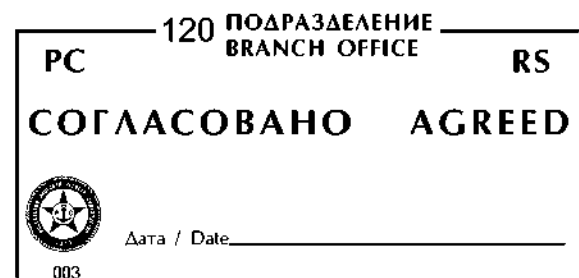
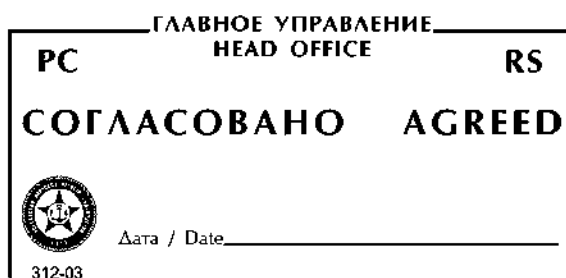



Fig. 8.2-3

ГЛАВНОЕ УПРАВЛЕНИЕ HEAD OFFICE	
РС СОГЛАСОВАНО	RS AGREED
при условии выполнения замечаний письма	subject to comments in letter
 № _____ Дата / Date _____	
312-04	




120 ПОДРАЗДЕЛЕНИЕ BRANCH OFFICE	
РС СОГЛАСОВАНО	RS AGREED
при условии выполнения замечаний письма	subject to comments in letter
 № _____ Дата / Date _____	
004	

Fig. 8.2-4

ГЛАВНОЕ УПРАВЛЕНИЕ HEAD OFFICE	
РС ОДОБРЕНО	RS APPROVED
Российским морским реестром судоходства по поручению Морской администрации	Approved by the Russian Maritime Register of Shipping under the authority of Maritime Administration of
 _____ _____ Дата / Date _____	
312-05	

120 ПОДРАЗДЕЛЕНИЕ BRANCH OFFICE	
РС ОДОБРЕНО	RS APPROVED
Российским морским реестром судоходства по поручению Морской администрации	Approved by the Russian Maritime Register of Shipping under the authority of Maritime Administration of
 _____ _____ Дата / Date _____	
005	

Fig. 8.2-5

ГЛАВНОЕ УПРАВЛЕНИЕ HEAD OFFICE	
РС	RS
ДЛЯ ИНФОРМАЦИИ FOR INFORMATION	
 _____ Дата / Date _____	
312-06	


120 ПОДРАЗДЕЛЕНИЕ BRANCH OFFICE	
РС	RS
ДЛЯ ИНФОРМАЦИИ FOR INFORMATION	
 _____ Дата / Date _____	
006	

Fig. 8.2-6

The various information documents not subject to review for compliance with the RS requirements are stamped as shown in Fig. 8.2-6.

8.4 Each sheet of the structural drawing shall be stamped. Paper-bound documents comprising several sheets with the same registration number, such as specifications, descriptions, calculations, instructions, lists, test programs, etc., shall be stamped only on the document title page.

Stamp on the title page of electronic document certified by digital signature may apply to all pages of the document.

8.5 Based on the results of review of the technical documentation referred to in 3.6 and 3.7, the Register compiles a conclusion letter without stamping or signing the documents.

8.6 In case of negative results of review, the RS requirements are communicated in the conclusion letter. No Register stamps are put on the documents.

8.7 In case of a single approval of the technical documentation on materials and products (refer to Section 1, Part I "General Regulations for Technical Supervision"), an entry on limitation of the material or product application (e.g., "for Project 15010", etc.) shall be made in the approval stamp or under the stamp and this shall be also indicated in the conclusion letter.

8.8 The requirements laid down by the Register in the course of approval of the design documentation of a ship under construction shall be taken into account by appropriate updating of the documentation bearing stamps shown in Figs. 8.2-2 and 8.2-4 to the satisfaction of the RS Branch Office in charge of technical supervision during construction of a ship.

The RS Branch Offices shall communicate information on cancelling the remarks to the Register Branch Office, which has approved the design documentation of a ship under construction as a whole, not later than one month before the delivery.

8.9 The detailed design documentation shall be approved without any remarks. The approval is issued only upon canceling all the remarks by the designer.

8.10 Copies of the documents bearing the original stamps of the Register are control copies.

8.11 One set of the approved technical documentation on ships, materials and products together with the conclusion letter are sent to the designer and the RS Branch Office, which will be in charge of review of the detailed design documentation or technical supervision during construction (manufacture) of the item. The third set of the approved documentation is kept in the RS Branch Office that has reviewed the documentation.

Documentation approved in electronic form is submitted to the designer and to the RS Branch Office by e-mail, via FTP-server or in a different way mutually agreed.

Upon approval of the detailed design documentation, one set is returned to the designer, the other is kept by the RS Branch Office, which has reviewed the docu-

mentation. If specially agreed upon with the RS Branch Office, another procedure for keeping approved detailed design documentation (e.g., at the designer or firm (manufacturer) where technical supervision will be effected, on conditions agreed upon with the RS Branch Office) may be adopted.

Where ship's construction is supervised by another RS Branch Office, one set of the detailed design documentation together with the conclusion letter shall be sent to this RS Branch Office.

8.12 Upon review and agreement of the final wording of the normative document, the Register sends to the organization, which submitted the document, an appropriate written confirmation on agreement of the document; the document itself with the Register stamp is kept in the RS Branch Office files as the control copy.

8.13 RHO carries out, where necessary, the control check of the technical documentation on ships, materials and products reviewed and approved by the RS Branch Offices upon the RHO authorization.

The order of review of the technical documentation in RHO and in the RS Branch Office is established by the appropriate RS internal normative documents (procedures, instructions).

9 DURATION OF VALIDITY OF TECHNICAL DOCUMENTATION APPROVAL (AGREEMENT)

9.1 The period of validity of the Register approval for plan approval documentation as well as technical design is limited by the period of validity of the contract for construction of the ship or series of sister ships.

In this case, it is mandatory to meet the requirements of international conventions and RS circulars with due regard for the dates set for their implementation during construction of ships according to the Register-approved technical documentation (refer to 9.5), and the RS Branch Office in charge of technical supervision during construction of the ship checks the implementation.

9.2 The validity of the Register approval of the technical documentation on materials and products in case of a single approval (refer to Section 1, Part I "General Regulations for Technical Supervision") is limited by the time of delivery of the materials and products or construction of ships, for which the materials and products are intended.

9.3 The Register approval of the technical documentation on materials and products in case of type approval (refer to Section 1, Part I "General Regulations for Technical Supervision"), including the specifications, is valid for a period of six years.

Approval of the technical documentation for the products specified in 5.8 has no duration of validity.

9.4 Standards and other normative documents on materials and products shall be agreed for the period of their validity.

When revising the standards and normative documents they shall be checked to take account of the current RS rules.

9.5 Irrespective of the approval validity, the technical documentation on ships, materials and products, as well

as agreed standards and other normative documents are subject to mandatory updating with regard to adopted requirements of international conventions and agreements that have come into force after approval (agreement) of the documentation. All approved and agreed documentation is also subject to updating, having regard to the requirements of the RS circular letters that require their mandatory fulfillment.

9.6 The requirements of the RS rules as well as of international conventions and agreements that are in effect on the date of submission of the documents shall be taken into consideration in the technical documentation submitted for re-approval (re-agreement) upon expiry of validity of its previous approval.

9.7 The Register approval (agreement) of the technical documentation loses its validity:

.1 upon expiry of approval validity (where the term is indicated);

.2 upon expiry of the documentation validity (where the term is indicated);

.3 in case amendments were introduced without consent of the Register into the approved (agreed) documentation dealing with the issues, which are within the Register terms of reference.

9.8 The Register may cancel its approval (agreement) of the technical documentation or change the terms of approval (agreement) in the following cases:

.1 if the documentation has not been timely brought in line with the provisions of international conventions and agreements, as well as with the requirements of the RS circular letters as set forth under 10.1;

.2 if the quality and reliability of materials and items are regularly low and do not meet the RS requirements.

10 INTRODUCTION OF AMENDMENTS INTO APPROVED (AGREED) TECHNICAL DOCUMENTATION

10.1 Any amendments to the technical documentation approved (agreed) by the Register that may relate to the requirements regulated by the RS rules or international conventions shall be approved (agreed) by the Register based on the results of review of the appropriate notifications on the amendments or of the reissued amended documents.

The amendments shall be detailed or specified in the amended documents, plans.

10.2 Review and approval of amendments to the design documentation shall be carried out by the RS Branch Office, which has approved this documentation.

10.3 Any amendments to the detailed design documentation made during the construction of the ship or the manufacture of the product that might affect solutions adopted in the design documentation shall be reviewed and approved by the RS Branch Office, which has approved the design documentation.

Amendments to the detailed design documentation that do not affect the solutions adopted in the design documentation shall be reviewed and approved by the RS Branch Office in charge of technical supervision of

the development of the detailed design documentation or the construction of the ship or the manufacture of the product.

10.4 Any amendments to the normative documents agreed by the Register shall be reviewed and agreed by the RS Branch Office, which has agreed these documents.

10.5 Any amendments to the specifications for the materials and products approved by the Register shall be reviewed and approved by the Register Branch Office, which has approved these specifications.

10.6 The procedure for review and approval (agreement) of amendments to the technical documentation referred to in 10.1 — 10.5 above may be altered or updated when necessary at the discretion of RHO in each particular case.

10.7 The RS Branch Office that is in charge of approval of the amendments made in the technical documentation approved earlier shall timely inform to that effect the RS Branch Office, which carries out technical supervision during construction of ship or manufacture of materials and products, respectively.

11 FINAL DOCUMENTATION ON A SHIP TO BE SUBMITTED TO THE REGISTER

11.1 Upon completion of construction, trials and commissioning of the ship, the final documentation shall be sent for information to the RS Branch Office for in-service supervision.

The amount of the documentation and the order of its submission shall be agreed upon with the RS Branch Office in charge of technical supervision during construction of the ship prior to completion of the ship construction. Where necessary, an appropriate entry shall be made in the contract on technical supervision signed between the RS Branch Office and the shipyard.

Approximate lists of the final documentation, which may be reduced or extended in each particular case depending on specific features of the ship structure, are given in the Appendix.

In particular, for oil tankers and bulk carriers subject to SOLAS Chapter II-1 Part A-1 Regulation 3-10, the list of final documentation shall also contain the documents given under items 1, 3.1 — 3.4, 4, 6.1, 8, 10, 12, 13 and 15 in the List of Information to Be Included in the Ship Construction File (SCF) (refer to 2.11 of the Guidelines on Technical Supervision of Ships under Construction).

In order to reduce the number of the final documents to be sent to the RS Branch Offices, combined drawings and layouts are allowed.

11.2 The final documents shall correspond to the

constructions actually done on board, installed machinery, arrangements, equipment, systems, etc.

11.3 Each document shall be provided with a stamp "final" or "operating". The documents shall be signed by a developer's official responsible for their development and correct information contained therein.

The list of final documentation shall bear the Register stamp (refer to Fig. 8.2-3).

11.4 The final documentation shall be sent to the RS Branch Office in one copy for the first ship of a series and a single ship. If ships of the same series are intended for operation under technical supervision of different RS Branch Offices, one complete set of the final documentation on the first ship of the series, operated under technical supervision of the particular RS Branch Office shall be sent to each RS Branch Office. In future the documents specified in 1.5, 2.5 — 2.9, 3.12, 3.13, 6.7 of the Appendix, the documents to which major amendments have been made, and newly developed documents shall be sent to the RS Branch Offices for the ships of a series.

11.5 The final documentation on the first ship of a series and a single ship shall be sent to the RS Branch Offices not later than six months after commissioning of the ship, and for ships of a series, not later than three months after commissioning of the first ship of the series to a particular basin.

12 SOFTWARE

12.1 TYPE APPROVAL OF SOFTWARE

12.1.1 Software which is capable of performing calculations which results are part of technical documentation to be submitted to the Register for approval according to 3.9, shall be approved by the Register.

12.1.2 The software is approved by, and the Type Approval Certificate for Computer Program (CTOI) (form 6.8.5) is issued by RHO.

12.1.3 The software used for counting assistance, which comes down to performance of a number of separate calculations for determination of auxiliary values, shall be brought to the notice of the Register.

12.1.4 The software for which the Type Approval Certificate for Computer Program (CTOI) (form 6.8.5) is issued, shall be submitted to the Register for review before its application.

12.1.5 In separate cases, the software may be submitted to the Register together with the technical documentation on the ship.

12.1.6 Type approval of onboard software for stability calculations shall be carried out according to 12.2.7.

12.1.7 The Type Approval Certificate for Computer Program (CTOI) (form 6.8.5) is issued for the software reviewed and verified in accordance with the requirements of these Rules. The Type Approval Certificate for Computer Program (CTOI) (form 6.8.5) shall contain the name of the software, names of the developing organization and the owner of the software, a computer type, programming language, brief description of the calculation procedure, scope of application, grounds for issuing the Type Approval Certificate for Computer Program (CTOI) (form 6.8.5).

12.1.8 When submitting to the Register the calculations, which are part of the ship's technical documentation and which are performed using the software being type approved by RS, a reference to the number of the Type Approval Certificate for Computer Program (CTOI) (form 6.8.5) issued by the Register shall be made in these calculations.

12.1.9 The Type Approval Certificate for Computer Program (CTOI) (form 6.8.5) issued by the Register for a software loses its validity if changes affecting the subject agreed have been done in the software.

12.2 APPROVAL OF ONBOARD SOFTWARE FOR STABILITY CALCULATIONS

12.2.1 Definitions.

Active software is a software that uses data from sensors automatically reading the contents of tanks and other ship loading parameters as input information.

Onboard software for stability calculations (stability software) — is a software which calculates the stability for actual loading condition and which is installed on board the ship and floating facility.

Passive software is a software that requires manual entry of input data for calculation.

12.2.2 General.

12.2.2.1 The scope of stability calculation shall comply with the approved Stability Booklet and shall at least include all information and perform all calculations or checks which are necessary to ensure compliance with the applicable stability requirements.

12.2.2.2 Approved stability software does not substitute the approved Stability Booklet, and is used as a supplement to the approved Stability Booklet to facilitate stability calculations.

12.2.2.3 Contents and format of the input/output information shall be easily comparable with the approved Stability Booklet.

12.2.2.4 A user manual shall be provided for the onboard computer stability software; the language in which the user manual is written shall be the same as used in the stability software.

12.2.2.5 The language of displayed and printed out information shall be the same as used in the approved Stability Booklet.

12.2.2.6 The onboard software for stability calculations shall be ship specific and the results of the calculations shall be only applicable to the ship for which it has been approved.

12.2.2.7 In case of modifications to the ship's main data or its internal arrangement as well as to the Stability Booklet, the approval of stability software is not valid. The software shall be updated and reapproved.

12.2.3 Types of stability software.

12.2.3.1 These requirements apply to passive software and to the off-line operation mode of active software.

12.2.3.2 Four types of stability software are acceptable depending upon the ship's stability requirements.

12.2.3.3 Type 1. Software calculating intact stability.

12.2.3.4 Type 2. Software calculating intact stability and checking damage stability on basis of a limit curve or checking all the stability requirements (intact and damage stability) on the basis of a limit curve.

12.2.3.5 Type 3. Software calculating intact stability and damage stability for each loading condition by direct application of preprogrammed damage cases based on the applicable requirements.

12.2.3.6 Type 4. Software calculating damage stability associated with an actual loading condition and actual flooding case, using direct application of user

defined damage, for the purpose of providing operational information for safe return to port (SRtP).

12.2.3.7 Damage stability of both Type 3 and Type 4 stability software shall be based on a hull form model, that is, directly calculated from a full three-dimensional geometric model.

12.2.4 Functional requirements.

12.2.4.1 General requirements for any type of stability software.

12.2.4.1.1 The stability software shall present relevant parameters of each loading condition. The following parameters shall be presented for a given loading condition:

deadweight data;

light-ship data;

trim;

draught at the draught marks and perpendiculars;

displacement, vertical centre of gravity, longitudinal centre of gravity and, if applicable, transverse centre of gravity;

downflooding angle and corresponding downflooding opening (not applicable for Type 2 software which uses limit curve for checking all the stability requirements);

compliance with stability criteria: listing of all calculated stability criteria, the limit values, the obtained values and the conclusions (criteria fulfilled or not fulfilled) (not applicable for Type 2 software which uses limit curve for checking all the stability requirements).

12.2.4.1.2 A clear warning shall be given on screen and in hard copy printout if any of the loading limitations are not complied with.

Loading limitations shall include, but may not be limited to:

trim, draught, liquid densities, tank filling levels, initial heel;

limiting value of vertical centre of gravity/meta-centric height in conjunction with above for Type 2;

restrictions to the stowage height for timber.

12.2.4.1.3 Type 3 software shall include pre-defined relevant damage cases based on the applicable requirements for location and extent of damages, intended for automatic check of a given loading condition.

12.2.4.1.4 The date and time of a saved calculation shall be part of the screen display and hard copy printout.

12.2.4.1.5 Each hard copy printout shall contain identification of the calculation program including version number.

12.2.4.1.6 Units of measurement shall be clearly identified and used consistently within a loading condition.

12.2.4.1.7 For Type 3 and Type 4 software, the system shall be pre-loaded with a detailed computer model of the complete hull, including appendages, all compartments, tanks and the relevant parts of the superstructure considered in the damage stability calcu-

lation, wind profile, down-flooding and up-flooding openings, cross-flooding arrangements, internal compartment connections and escape routes, as applicable and according to the type of stability software.

12.2.4.1.8 For Type 1 and Type 2 software, in case a full three dimensional model is used for stability calculations, the requirements for the computer model shall be as per 12.2.4.1.7 above to the extent as applicable and according to the type of stability software.

12.2.4.2 Additional requirements for Type 4 stability software.

12.2.4.2.1 Where the normal (Type 1, 2 or 3) and Type 4 (SRtP) software are not totally separated the following requirements shall be met:

the function of switching between normal software and SRtP module software shall be provided;

the actual intact loading condition shall be the same for both functions (normal operation and SRtP); and

the SRtP module needs only to be activated in case of an incident.

Approval of Type 4 (SRtP) software is for stability only.

12.2.4.2.2 In passenger ships which are subject to SRtP and have an onboard stability computer and shore-based support, such software need not be identical.

12.2.4.2.3 Each internal space shall be assigned its permeability as shown in Table 12.2.4.2.3 below, unless a more accurate permeability has been reflected in the approved Stability Booklet:

Table 12.2.4.2.3

Spaces	Permeability			
	Default	Full	Partially filled	Empty
container spaces	0,95	0,70	0,80	0,95
dry cargo spaces	0,95	0,70	0,80	0,95
ro-ro spaces	0,95	0,90	0,90	0,95
cargo liquids	0,95	0,70	0,80	0,95
intended for consumable liquids	0,95	0,95	0,70	0,80
stores	0,95	0,60	0,60	0,95
occupied by machinery	0,85			
void spaces	0,95			
occupied by accommodation	0,95			

12.2.4.2.4 The stability software shall be capable of accounting for applied moments such as wind, lifeboat launching, cargo shifts and passenger relocation.

12.2.4.2.5 The stability software shall account for the effect of wind by using the method in 2.5.4.1.2, Part V "Subdivision" of the Rules for the Classification and Construction of Sea-Going Ships as the default, but allow for manual input of the wind speed/pressure.

12.2.4.2.6 The stability software shall be capable of assessing the impact of open main watertight doors on stability.

12.2.4.2.7 The stability software shall use current light-ship parameters stated in the approved Stability Booklet.

12.2.4.2.8 The output of the software shall be such that it provides the sufficient clear unambiguous information to enable quick and accurate assessment of the stability of the ship for any actual damage, the impact of flooding on the means of escape and the controls of devices necessary for managing and/or controlling the stability of the ship.

When the actual loading condition is input in the Type 4 software, the following output (intact stability) shall be available:

- deadweight data;
- light-ship data;
- trim;
- heel;
- draught at the draught marks and perpendiculars;
- displacement, vertical centre of gravity, longitudinal centre of gravity and, if applicable, transverse centre of gravity;
- downflooding angle and corresponding downflooding opening;
- free surfaces;
- metacentric height;
- righting levers corrected for free surfaces relevant to an adequate range of heeling (not less than 60°) available indicatively at the following intervals: 0°, 5°, 10°, 15°, 20°, 25°, 30°, 40°, 50°, 60°;
- compliance with relevant intact stability criteria : listing of all calculated intact stability criteria, the limiting values, the obtained values and the conclusions (criteria fulfilled or not fulfilled);
- stability limiting curve.

When the actual loading condition is associated to the damage case(s), the following output (damage stability) shall be available:

- trim;
- heel;
- draught at the draught marks and perpendiculars;
- progressive flooding angle and corresponding progressive flooding openings;
- metacentric height;
- righting levers corrected for free surfaces relevant to an adequate range of heeling (not less than 60°) available indicatively at the following intervals: 0°, 5°, 10°, 15°, 20°, 25°, 30°, 40°, 50°, 60°;
- compliance with stability criteria: listing of all calculated stability criteria, the limit values, the obtained values and the conclusions (criteria fulfilled or not fulfilled);

relevant flooding openings (unprotected or weather-tight) with the distance from the damage waterline to each opening;

list of all flooded compartments with the permeability considered;

amount of water in each flooded compartment;

escape route immersion angles;

a profile view, deck views and cross-sections of the ship indicating the flooded waterplane and the damaged compartments.

12.2.4.2.9 For ro-ro passenger ships there shall be algorithms in the software for estimating the effect of water accumulation on deck (WOD)¹.

In addition to the predefined significant wave height taken from the approved Stability Booklet, there shall be possibility for the crew to input manually the significant wave height of the ship navigation area in the stability software.

In addition to the predefined significant wave height taken from the approved Stability Booklet, calculations with two additional significant wave heights shall be submitted.

12.2.5 Acceptable tolerances.

12.2.5.1 Depending on the type of program and scope of calculations, the acceptable tolerances shall be determined, according to 12.2.5.2 or 12.2.5.3.

Examples of pre-programmed input data include the following:

hydrostatic data: displacement, longitudinal center of flotation, longitudinal center of buoyancy and vertical center of buoyancy, transverse metacentric height and moment to change trim 1 cm versus draught;

stability data: cross curves of stability at appropriate heel/trim angles, stability limits versus displacement;

compartment data: volume, longitudinal centre of gravity, vertical centre of gravity, transverse centre of gravity and free surface moment/grain heeling moments versus level of the compartment's contents.

Examples of output data include the following:

hydrostatic data: displacement, longitudinal centre of flotation, longitudinal centre of buoyancy and vertical centre of buoyancy, transverse metacentric height, moment to change trim 1 cm versus draught as well as actual draughts and trim;

stability data: free surface correction, righting levers, vertical centre of gravity, metacentric height, metacentric height/vertical centre of gravity limiting values, allowable grain heeling moments, derived stability criteria;

compartment data: calculated volume, vertical centre of gravity, transverse centre of gravity, longitudinal centre of gravity and free surface moment/grain heeling moments versus level of the compartment's contents.

The computational accuracy of the calculation program (software) results shall be within the acceptable tolerances, specified in 12.2.5.2 or 12.2.5.3, which shall be confirmed by satisfactory comparison with the approved Stability Booklet or control calculations performed using another software with identical input.

¹These requirements apply to ro-ro passenger ships subject to the Stockholm Agreement (IMO circular letter No. 1891).

12.2.5.2 Programs which use only pre-programmed data from the approved Stability Booklet as the basis for stability calculations, shall have zero tolerances for the printouts of input data.

Output data tolerances shall be close to zero, however, small differences associated with calculation rounding or abridged input data are acceptable.

Additionally differences associated with the use of hydrostatic and stability data for trims that differ from those in the approved Stability Booklet, are acceptable subject technical background for obtained data.

12.2.5.3 Programs which use hull form models, shall have tolerances established against either data from the approved Stability Booklet in accordance with Table 12.2.5.3.

Table 12.2.5.3

Parameter	Acceptable tolerances
Hull form dependent	
Displacement	$\pm 2 \%$
Longitudinal center of buoyancy, from AP (after perpendicular)	$\pm 1 \%$ / 50 cm
Vertical center of buoyancy	$\pm 1 \%$ / 5 cm
Transverse center of buoyancy	$\pm 0,5 \%$ of B (breadth) / 5 cm
Longitudinal center of flotation, from AP	$\pm 1 \%$ / 50 cm
Moment to trim 1 cm	$\pm 2 \%$
Transverse metacentric height	$\pm 1 \%$ / 5 cm
Longitudinal metacentric height	$\pm 1 \%$ / 50 cm
Cross curves of stability	$\pm 5 \%$
Compartment dependent	
Volume or deadweight	$\pm 2 \%$
Longitudinal center of gravity, from AP	$\pm 1 \%$ / 50 cm
Vertical centre of gravity	$\pm 1 \%$ / 5 cm
Transverse center of gravity	$\pm 0,5 \%$ of B / 5 cm
Free surface moment	$\pm 2 \%$
Shifting moment	$\pm 5 \%$
Level of contents	$\pm 2 \%$
Trim and stability	
Draughts (forward, aft, mean)	$\pm 1 \%$ / 5 cm
Transverse metacentric height (both initial and corrected)	$\pm 1 \%$ / 5 cm
GRighting levers	$\pm 0,5 \%$ of B / 5 cm
Downflooding angle	$\pm 2^\circ$
Equilibrium angles	$\pm 1^\circ$
Distance from WL (waterline) to unprotected and weathertight openings, or other relevant point, if applicable	$\pm 5 \%$ / 5 cm
Areas under righting arm curve	$\pm 5 \%$ / 0,0012 mrad

Notes: 1. Deviation in % = {(base value-applicant's value) / base value} \times 100.

Where the "base value" may be from the approved Stability Booklet or control calculation.

2. When applying the tolerances in Table 12.2.5.3 having two values, the allowable tolerance is the greater of the two values.

3. Where differences in calculation methodology exist between the software used in the comparison, this may be a basis for accepting deviations greater than those specified in Table 12.2.5.3 provided a software examination is carried out in sufficient detail to clearly document that such differences are technically justifiable.

4. Deviation from these tolerances shall not be accepted unless the Register considers that there is a technical background (satisfactory explanation) for the difference and that it is clearly evident that the deviation does not impact compliance with the applicable stability criteria.

12.2.6 Approval procedure.

12.2.6.1 The stability software approval procedure shall include:

- verification of type approval;
- verification that the input data is consistent with the approved documentation;
- verification of test loading conditions;
- verification that the software type is appropriate for the type of ship and stability calculations required;
- verification of functional requirements under 12.2.4.

In case of satisfactory verifications results the Report (form 6.3.29) is issued, the test loading conditions are approved.

The satisfactory operation of the software with the onboard computer(s) for stability calculations shall be verified by testing upon installation.

The software operation shall be verified in the presence of the RS surveyor in accordance with 12.2.10. The approved test loading conditions, the User Manual and the Report (form 6.3.29) shall be available on board.

12.2.7 Type approval of the software.

12.2.7.1 In order to obtain type approval, the documents shall be submitted to the Register containing the following:

- name of the software;
- type of onboard computer on which the software can be installed, name of the software developer;
- User Manual;
- results of test calculations;
- input data for test calculations (ship's hull form data, compartmentation data, lines plan, offset tables, hydrostatic tables, capacity tables, etc.).

Test calculations may be performed on the basis of input data provided by the Register or selected by the software developer and agreed upon with the Register.

Test calculations shall be carried out for two types of ships (tanker, bulk carrier, container ship, dry cargo ship, passenger ship and etc.) for which approval is requested. Where approval is requested for only one type of ship, a minimum of two data sets for different hull forms of that type of ship are required to be tested.

For approval of software which is based on the input of hull form data, test calculations shall be carried out for three types of ships, or of three for different hull forms, if approval is requested for only one type of ship.

12.2.8 Specific approval of the software.

12.2.8.1 The Register verifies the software computational accuracy and that the input data is consistent the ship for which the software is developed.

12.2.8.2 Documentation specified in 12.2.7.1 and approved documentation on stability shall be submitted to the Register for review.

12.2.8.3 The test loading conditions normally shall cover the range of load draughts from the deepest envisaged loaded condition to the light ballast condition and shall include at least one departure and one arrival

condition. Calculations shall be provided for at least four loading conditions, taken from the ship's approved documentation on stability. For tankers, oil tankers, chemical tankers, gas carriers, etc. (ships carrying liquids in bulk) and ships carrying grain in bulk at least one of the conditions shall include partially filled cargo tanks/cargo spaces. Within the selected loading conditions each cargo hold shall be loaded at least once.

For Type 4 stability software, at least three damage cases shall be selected, each of them associated with at least three loading conditions taken from the ship's approved Stability Booklet.

12.2.8.4 The approval consists in verification that the following submitted data used by the software is consistent with the current data in the approved plans and documentation:

- identification of the software including version number;

- main dimensions, hydrostatic particulars and, if applicable, the ship profile;

- the position of the forward and after perpendiculars, and if appropriate, the calculation method to derive the forward and after draughts at the actual position of the ship's draught marks;

- ship lightweight and centre of gravity derived from the most recently approved inclining test or light-weight check;

- lines plan, offset tables or other suitable presentation of hull form data;

- compartment definitions, including frame spacing, and centres of volume, together with capacity tables (sounding/ullage tables), free surface corrections, if appropriate;

- cargo and consumables distribution for each loading.

Approval by the Register does not absolve the developer and shipowner of responsibility for ensuring that the information programmed into the onboard computer software is consistent with the current condition of the ship.

12.2.9 User manual.

12.2.9.1 The User Manual shall contain the following information:

- instructions for installation of software on the computer;

- description of the main functions;

- a sample of each displayed screen with explanatory text;

- input and output data;

- required minimum hardware to operate the software;

- description of use of the test loading conditions;

- example of the calculation accompanied by explanations;

- list of warnings.

12.2.10 Onboard verification.

12.2.10.1 Acceptance tests of the software shall be conducted on board the ship in the presence of the RS surveyor with issuance of the Report on Survey of the Ship (form 6.3.10). From the approved test loading conditions at least one loading condition (other than light-ship) shall be calculated. Actual loading condition results are not suitable for verification.

12.2.10.2 Calculation steps to be performed:

- .1 input the test loading condition and start a calculation; compare the calculation results with the approved test loading conditions;

- .2 change input data of deadweight (filling of tanks and the cargo weight) sufficiently to change the draught or displacement by at least 10 %. The results shall be reviewed to ensure that they differ in a logical way from those of the input data;

- .3 revise the above modified loading condition to restore the initial test loading condition and compare the results. Confirm that the relevant input and output data of the approved test loading condition have been replicated;

- .4 alternatively, one or more test loading conditions shall be selected and the test calculation performed by entering all deadweight data for each selected test loading condition into the program. The results shall be verified as identical to the results in the approved test conditions.

12.2.10.3 The software shall be installed on the onboard computer of a type approved by the Register or on two unapproved computers.

12.2.11 Periodical verifications.

12.2.11.1 The software installed onboard shall be subject to annual survey in the presence of the RS surveyor.

12.2.11.2 The verification procedure shall be carried out in accordance with 12.2.10.

12.2.12 Other requirements.

12.2.12.1 Protection against unintentional or unauthorised modification of the software and pre-programmed data shall be provided.

12.2.12.2 The software shall warn the user of any input errors (with regard to limitations such as filling a compartment beyond capacity, or exceeding the assigned load line, etc.) and in cases where the calculation results do not comply with the applicable criteria, as well as in case of a wrong use of the very program.

12.2.12.3 The software and any data stored in the system shall be protected from corruption by loss of power.

APPENDIX

**LIST OF FINAL DOCUMENTATION ON A SHIP TO BE SUBMITTED
TO THE REGISTER¹****1 GENERAL**

- | | |
|--|---|
| 1.1 List of final documentation on a ship. | 1.5 List of deviations from the RS rules. |
| 1.2 Specification for all parts. | 1.6 List of spare parts. |
| 1.3 General arrangement plan. | 1.7 Drawing showing the location of the IMO ship identification number. |
| 1.4 List of machinery and equipment installed on board the ship, with brief indication of their technical characteristics. | |

2 STABILITY, UNSINKABILITY

- | | |
|---|---|
| 2.1 Lines plan. | 2.7 Stability Booklet and Instructions on Taking and Consuming Liquid Cargoes and Ballasting. |
| 2.2 Summary table of displacements, centre of gravity positions, trim and initial stability for different loading conditions. | 2.8 Damage Stability Booklet or Information on the Effect of Flooding. |
| 2.3 Table of tank capacities. | 2.9 Stability Booklet for the Ship Loaded with Grain. |
| 2.4 Draft mark arrangement plan and load line. | 2.10 Layout of watertight compartments. |
| 2.5 Inclining Test Report or Weighing Report, if the ship is exempted from the inclining test. | 2.11 Damage Control Plan. |
| 2.6 Updated stability calculation. | 2.12 Operating manual on water level detection system. |

3 HULL

- | | |
|--|--|
| 3.1 Midship section. | 3.8 Fore end framing and stem. |
| 3.2 Constructional profile. | 3.9 Propeller brackets and bossings. |
| 3.3 Deck and platform plans. | 3.10 Main machinery seatings and boiler bearers with bottom construction in that area. |
| 3.4 Double (single) bottom plan. | 3.11 Hydrofoil system and air cushion skirt plans. |
| 3.5 Shell expansion (for glass reinforced ships only in case the outer shell plating has different thickness). | 3.12 Loading instructions for ships 65 m in length and more. |
| 3.6 Longitudinal and transverse bulkheads. | 3.13 Booklet as per SOLAS regulation VI/7.2. |
| 3.7 After end framing and sternframe. | |

¹ Given in the List are approximate designation of particular final documents adopted only to reflect their technical essence.

4 ARRANGEMENTS, EQUIPMENT, OUTFIT, LIFE-SAVING APPLIANCES AND SIGNAL MEANS

- 4.1 Stock list.
- 4.2 Arrangement plan of survival craft and personal life-saving appliances.
- 4.3 Arrangement plan of sound signal means and navigation lights.
- 4.4 Arrangement plan of openings in the hull, superstructures and deckhouses as well as in subdivision bulkheads with indication of coaming heights, types, designs and basic dimensions and parameters of closing appliances.
- 4.5 General arrangement plan of rudder and steering gear with indication of basic dimensions, design and material, main components, type and main parameters of steering gear (main and auxiliary).
- 4.6 General arrangement plan of anchor arrangement with indication of types, principal dimensions (parameters) of components, type and basic parameters of anchor machinery.
- 4.7 General arrangement plan of mooring and towing arrangements with indication of types, basic parameters of the equipment, main characteristics of mooring and towing ropes, type and basic parameters of mooring and towing machinery.
- 4.8 General arrangement plan of fittings used to prevent shifting of cargo with indication of the design, material and basic dimensions (parameters) of main components of the fittings.
- 4.9 Arrangement plan of emergency outfit.
- 4.10 General arrangement plan of cargo handling gear with indication of principle characteristics (safe working load, operation areas, outreach, cargo lifting and lowering speed, maximum and minimum outreach, slewing speed, etc.).
- 4.11 General view drawing of cargo handling gear together with specification of associated machinery, components and safety devices.
- 4.12 Drawing (scheme) of derrick and crane rigging.
- 4.13 Drawing of attachments of cargo masts, crane, winch and reel foundations to ship structures and of hull strengthening in way of their installation.
- 4.14 Drawing of securing of cargo handling gear in the stowing for sea position.
- 4.15 Drawing of securing timber deck cargo.

5 FIRE PROTECTION

- 5.1 Fire plan.
- 5.2 Arrangement plan of fire-proof divisions (including doors) with indication of numbers of the type approval certificates.
- 5.3 Schemes of insulation of spaces with indication of type insulation constructions.
- 5.4 Deck covering schemes.
- 5.5 Fire fighting system diagrams.

6 MACHINERY INSTALLATION

- 6.1 General arrangement plans of machinery, boilers and equipment in machinery and boiler spaces and in spaces of emergency sources of electrical power.
- 6.2 General arrangement plan of shafting.
- 6.3 CPP system drawings.
- 6.4 General view of propeller.
- 6.5 Stern-tube drawing.
- 6.6 Diagram and description of remote control system for main machinery complete with information on equipment of remote control stations with control devices, indication and alarm signalling devices, means of communication and other arrangements.
- 6.7 Shafting alignment calculation. Torsional vibration calculations and torsioning results.

7 SYSTEMS AND PIPING

- 7.1 Ship system diagrams:**
- .1 bilge system;
 - .2 ballast system;
 - .3 waste water, sewage and scupper systems;
 - .4 fuelling and fuel transfer systems;
 - .5 sounding, air and overflow pipes;
 - .6 cargo and stripping systems (on oil tankers);
 - .7 vent system (on oil tankers);
 - .8 ventilation system of accommodation, cargo, machinery and production spaces;
 - .9 liquid cargo heating system;
 - .10 arrangement plan of bottom and side fittings.
- 7.2 Machinery installation piping diagrams:**
- .1 live and exhaust steam, blow-off pipes;
 - .2 feed water, condensate and evaporator;
 - .3 fuel;
 - .4 lubricating oil;
 - .5 cooling;
 - .6 compressed air;
 - .7 fuel, water and oil heating;
 - .8 exhaust gas pipes and uptakes.

8 REFRIGERATING PLANTS

- 8.1 Refrigerant system diagram.**
- 8.2 Cooling medium and cooling water system diagram.**
- 8.3 Basic diagram of hold air cooling.**
- 8.4 Arrangement plan of equipment in refrigerating machinery space with indication of escape routes.**
- 8.5 Arrangement plan of equipment in refrigerated spaces.**
- 8.6 Insulation drawing with technical specifications of insulating materials.**
- 8.7 Basic diagram of telethermometer station and arrangement of thermometer tubes.**
- 8.8 General arrangement plan of equipment in refrigerant storage spaces with stationary receivers.**
- Note.* Only documentation referred to in 8.1, 8.4, 8.8 shall be presented for unclassified refrigerating plants.

9 ELECTRICAL EQUIPMENT

- 9.1 Circuit diagrams of electrical power distribution from main and emergency sources: power mains, lighting (to section switchboards) and navigation lights.**
- 9.2 Circuit diagrams of main and emergency switchboards, control desks and other switchboards of non-standard design.**
- 9.3 Circuit diagram of main current, excitation, control, monitoring, signalling, protection and interlocking of the electric propulsion plant.**
- 9.4 Circuit diagram of outer connections of ship's control apparatus, telephone communication, general alarm and fire detection and alarm systems.**
- 9.5 Circuit diagram of electric drives for steering gear, electrical remote control systems of rudder electric drive, protection and alarm.**
- 9.6 General arrangement plan of essential electrical equipment and electric propulsion plant.**
- 9.7 Lubricating oil and air cooling diagrams of main electric machines of the electric propulsion plant.**
- 9.8 Diagrams of protective earthing, drawings of lightning protection devices for tankers, gas carriers, mobile offshore drilling units and ships with non-metal hulls.**
- 9.9 Layout plan of cable penetrations through watertight and fire bulkheads.**
- Note.* Information on cross-sectional areas of cable conductors, types of cables, currents and protection shall be given in the documentation.

10 NAVIGATIONAL EQUIPMENT

10.1 Connection diagram of navigational equipment (with indication of types and cross-sectional areas of cable conductors).

10.2 Drawings (not less than two views) showing arrangement of navigational equipment and sources of power, as well as heating, ventilation, communication, alarm and lighting facilities in spaces intended for the installation of navigational equipment.

10.3 Drawings (plan and side view) showing arrangement of aerials as well as spaces intended for the installation of navigational equipment.

10.4 List of navigational equipment fitted on board with specification of manufacturer, type, supplier and information on approval of the equipment by the Register.

10.5 Bridge fields of vision drawings showing:

.1 the horizontal field of vision from the various workstations, including the arc of individual blind sectors and the sum of blind sectors forward of the beam;

.2 the vertical field of vision over the bow from the conning station and the workstation for navigation and

manoeuvring, including the line of sight under the upper edge of the window from standing working position at the workstation;

.3 window arrangement, including inclination, dimensions, framing and height of lower and upper edge above bridge deck surface as well as the height of the deckhead.

10.6 Bridge layout drawings showing:

.1 the bridge layout, including the configuration and location of all bridge workstations, including workstations for additional bridge functions;

.2 configuration and dimensions of workstation consoles including console foundations, and location of instruments and equipment in all workstation consoles.

10.7 In case of ships having a distinguishing mark **OMBO** in their class notation, the scope of technical documentation to be submitted shall be in accordance with the requirements of 1.3.7, Part V "Navigational Equipment" of the Rules for the Equipment of Sea-Going Ships.

11 AUTOMATION

11.1 Functional circuits of control and protection elements, devices and systems of main machinery and propellers (remote automated control systems).

11.2 Functional circuits of control and protection elements, devices and systems of auxiliary machinery, electric-generation plants, main and auxiliary boilers, refrigerating plants.

11.3 Functional circuits of control and protection elements, devices and systems of centralized and local warning alarm, indication and recording systems.

11.4 General view drawings of separate devices, switchboards, panels of control and protection systems of main machinery, propellers and auxiliary machinery, and their arrangement on board ship.

11.5 Structural drawings of sensors, alarms, instruments as well as control and monitoring switchboards and panels of the systems referred to in 11.3 — 11.5.

11.6 Description of power sources of the systems referred to in 11.3 — 11.5 and their wiring schemes.

11.7 Block diagrams of machinery control algorithms for computers and computer-aided systems applied in the plants subject to the Register technical supervision.

11.8 Failure mode and effects analysis (FMEA) for dynamic positioning systems on the ships having distinguishing marks **DYNPOS-2** and **DYNPOS-3** in the class notation.

12 RADIO EQUIPMENT

12.1 Diagram of connections of radio equipment and commutation of aerials (with indication of types and cross-sectional areas of cable conductors and protection means from radio interference).

12.2 Drawing (plan and side view) of equipment arrangement in radio equipment spaces with indication of heating, ventilation, communication, alarm and lighting systems.

12.3 Drawing (plan and side view) of aerial arrangement with indication of the spaces intended for installation of radio equipment.

12.4 Drawing and diagram of radio equipment for motor lifeboats (if any).

13 ARRANGEMENTS AND EQUIPMENT FOR PREVENTION OF POLLUTION FROM SHIPS

13.1 For ships of all types:

.1 arrangement plan of equipment for prevention of pollution from ships;

.2 arrangement plan of oil fuel tanks with indication of their protective location relative to shell plating (Regulation 12A of Annex I to MARPOL 73/78), if applicable;

.3 calculation of required capacity of holding tanks, oily water and sewage tanks, garbage containers and their arrangement plans;

.4 diagram of bilge oily water piping;

.5 diagram of oil residue piping;

.6 diagram of sewage piping;

.7 calculation of the discharge rate of untreated sewage;

.8 Energy Efficiency Design Index Technical File in accordance with the Guidelines on Survey and Certification of Energy Efficiency Design Index (EEDI) (IMO resolution MEPC.254(67) as amended by IMO resolution MEPC.261(68)), if applicable.

13.2 For oil tankers, other than those referred to in 13.1:

.1 calculation of capacity of slop tanks;

.2 accidental oil outflow calculations for oil tankers delivered on or after 1 January 2010 (Regulation 23 of Annex I to MARPOL 73/78);

.3 arrangement plan of all cargo and slop tanks on board with indication of their protective location relative to shell plating (Regulation 19 of Annex I to MARPOL 73/78);

.4 arrangement plan of the pump room with indication of its protective location relative to shell plating (Regulation 22 of Annex I to MARPOL 73/78), if applicable;

.5 subdivision plan and damage stability calculations;

.6 diagram of emergency oil transfer system, if applicable;

.7 diagram of crude oil washing system and shade diagram (if applicable);

.8 plan showing arrangement of discharge outlets;

.9 diagram of transfer of oil residues (sludge) and tank washings from cargo area into slop tanks;

.10 diagram of the ballast and cleaning water discharge monitoring and control system (if applicable);

.11 operations and equipment manual for crude oil washing system (if applicable);

.12 operation manual for discharge monitoring and control system of ballast and washing water (if applicable).

13.3 For tankers carrying noxious liquid substances, other than those referred to in 13.1:

.1 arrangement plan of pump rooms;

.2 arrangement plan of cargo tank ventilation system;

.3 plan showing arrangement of discharge outlets;

.4 procedures and arrangements manual for discharge of noxious liquid substances.

LIST OF CIRCULAR LETTERS AMENDING/SUPPLEMENTING NORMATIVE DOCUMENT

(Normative document No. and title)

Item No.	Circular Letter No., date of approval	List of amended and introduced paras/chapters/sections



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 381-08-1156c

dated 02.08.2018

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

material, product, activities, ship

Implementation:

from the date of publication

Valid till:

--

Validity period extended till: -

-

amends Circular Letter No.

381-08-1143

dated **20.06.2018**

Number of pages:

1+8

Appendix(-ces):

text of amendments to Part I "General Regulations for Technical Supervision"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that in connection with coming into force of a new revision of IACS Unified Requirement (UR) Z17 (Rev.13 Jan 2018) "Procedural Requirements for Service Suppliers" and based on the proposals entered in SRPAA RS ND, Part I "General Regulations for Technical Supervision" shall be amended as specified in the Appendix to the Circular Letter. These amendments will be introduced into the Rules at their re-publication.

It is necessary to do the following:

1. Familiarize the surveyors of the RS Branch Offices/RHO locations with the provisions of the Circular Letter.
2. Apply provisions of the Circular Letter.
3. Clarify the content of the Circular Letter to all interested parties in the area of the RS Branch Offices' activity.

List of amended and introduced paras/chapters/sections (to specify in the List of Circular Letters (form 8.3.36)):

Part I: Table 8.1.1, paras 8.1.1.1.2, 8.1.1.1.1, 8.3.1, 8.3.1.1.8, 8.3.3, 8.3.3.1 — 8.3.38, 8.3.18.

Person in
charge:

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"Thesis" System No.

18-141763 dated 30.05.2018

**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND
MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2018,
ND No. 2-020101-040-E**

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

8 RECOGNITION OF SERVICE SUPPLIERS

Para 8.1.1.1.2 shall be amended to read (for the English version only):

“Service supplier (a service supplier or a category of service supplier may be referred to hereafter simply as "Supplier") is a person or a firm not employed by the Register, who at the request or on behalf of an equipment manufacturer, a shipyard, a shipowner, an owner of offshore installation or other client provides services for a ship or an offshore installation, such as measurements, tests, repair or maintenance of safety systems and equipment, the results of which are used by the RS surveyors in making decisions affecting classification or statutory certification of a ship or an offshore installation and services provided thereto;”.

Table 8.1.1. Code **22001000**. Kind of activity shall be amended to read:

22001000	Thickness measurements on ships and offshore installations under supervision of the RS surveyor:
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Code **22003000**. Kind of activity shall be amended to read:

22003000	In-water survey on ships and offshore installations by diver or remotely operated vehicle (ROV)
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New code **22025600** shall be introduced reading as follows.

22025600	Survey using remote inspection techniques (RIT) as an alternative means for close-up survey of the structure of ships and offshore installations
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Para 8.1.1.1 shall be supplemented with new para **8.1.1.1.6** reading as follows:

“**.6** A term “ship and offshore installation” means any ship (including floating dock, mobile offshore drilling unit (MODU), floating offshore oil-and-gas production unit (FPU)) and fixed offshore platform (FOP)”.

Para 8.3.1 shall be amended to read:

“8.3.1 Requirements for firms engaged in thickness measurements on ships and offshore installations (codes 22001001, 22001002).

Firms engaged in thickness measurements on ships and offshore installations (hereinafter referred to as “TM service supplier”) are subdivided into the following categories:

category I: firms engaged in thickness measurements under supervision of the RS surveyor on any ship types, other floating facilities (including floating docks, mobile offshore drilling units (MODUs), floating offshore oil-and-gas production units (FPU)) and fixed offshore platforms (FOPs) regardless of their gross tonnage;

category II: firms engaged in thickness measurements under supervision of the RS surveyor on fishing vessels only regardless of their gross tonnage, and **non-ESP** ships less than 500 gross tonnage”.

Para 8.3.1.1.8 shall be amended to read:

“8.3.1.1.8 Details of category I TM service supplier recognition.

TM service supplier recognition and issuance of the Recognition Certificate (CP) (form 7.1.4.2) are conditional on a practical demonstration of thickness measurements on board the ship, other floating facility and fixed offshore platform performed under supervision of the RS surveyor, as well as satisfactory reporting being carried out based on the results of thickness measurement.

The Register shall issue Certificate of Vocational Training (CПП) (form 7.1.34) to the operator/supervisor who has carried out thickness measurements confirming his/her appropriate qualification for carrying out thickness measurements on ships and offshore installations in accordance with the RS normative documents.

An entry on the type of service shall be made in the Annex to the Recognition Certificate (CP) reading as follows: “22001001 — Category I: firms engaged in thickness measurements under supervision of the RS surveyor on any ship types, other floating facilities (including floating docks, mobile offshore drilling units (MODUs), floating offshore oil-and-gas production units (FPU)) and fixed offshore platforms (FOPs) regardless of their gross tonnage”. During survey of recognized TM service suppliers for renewal of the Recognition Certificate (CP), it shall be confirmed that they comply with the applicable requirements of the RS normative documents concerning the TM service supplier recognition, and that the residual thickness measurements during the period of validity of the Recognition Certificate (CP) have been carried out on particular ships, other floating facilities, FOPs under supervision of the RS surveyor or under supervision of the ACS — IACS member surveyors whose Recognition Certificates (CP) are also available at the TM service supplier. It shall be also confirmed that thickness measurement reports have been duly signed and stamped by the RS or ACS — IACS member surveyors. Particular attention shall be paid to the relevance of the list of the TM service supplier operators/supervisors and to the availability of the necessary documents confirming the NDT personnel qualification.”

Paras 8.3.3, 8.3.3.1 — 8.3.3.8 shall be amended to read:

“8.3.3 Requirements for firms carrying out an in-water survey on ships and offshore installations by diver or remotely operated vehicle (ROV) (code 22003000).

8.3.3.1 Extent of engagement — in-water survey in lieu of a docking survey and/or the internal hull survey of compartments filled with water on ships and offshore installations by diver or ROV.

8.3.3.2 Training of personnel.

The firm is responsible for the qualification of its divers, ROV operators and supervisors and for their training in the use of the equipment utilised when carrying out inspection. Knowledge of the following shall be documented:

- ship's underwater structure and appendages, propeller shaft, propeller, rudder and its bearings, etc.;

- non-destructive testing in accordance with a recognised national or international industrial NDT standard. This requirement only applies if an in-water survey firm performs non-destructive testing (visual testing (VT), ultrasonic testing (UT), ultrasonic thickness measurement, etc.);

- certification as a firm when conducting thickness measurements under water on ships and offshore installations;

- bearing clearance measurements on rudders and propeller shaft;

- underwater video monitoring with TV-monitors on deck, as well as still picture work;

- operation of underwater communication system;

- any special equipment necessary for the work carried out.

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

8.3.3.4 Supervisor.

8.3.3.4.1 Diving supervisor.

Diving supervisor shall be qualified according to the firm's general requirements and shall have a minimum of two years' experience as a diver carrying out inspection.

8.3.3.4.2 ROV supervisor.

ROV supervisor shall have a minimum of two (2) years of experience conducting inspections with ROVs.

8.3.3.5 Divers and operators.

8.3.3.5.1 Divers carrying out inspection.

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

8.3.3.5.2 ROV operators

ROV operators shall have at least one year of experience working with ROVs conducting inspections on ships and offshore installations.

8.3.3.6 Equipment.

8.3.3.6.1 The following shall be available for firms:

closed circuit colour television with sufficient illumination equipment;

two-way communication between diver and surface staff;

video recording device connected to the closed circuit television;

still photography camera;

equipment for carrying out thickness gauging, non-destructive testing and measurements (e.g. clearances, indents, etc., as relevant to the work to be performed);

equipment for cleaning of the hull.

8.3.3.6.2 In addition to above 8.3.3.6.1, the following shall be available for firms carrying out survey by ROV:

remotely operated vehicle (ROV);

adequate controls or programming for the ROV functions required.

8.3.3.7 Procedures and guidelines.

8.3.3.7.1 The firm shall have documented operational procedures and guidelines for how to carry out the inspection and how to handle the equipment. These shall include:

two-way communication between 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.

8.3.3.7.2 In addition to above 8.3.3.7.1, documented operational procedures and guidelines for firms carrying out in-water survey by ROV shall also include:

guidance for the operation and maintenance of ROV, if applicable;

methods and equipment to ensure the ROV operator can determine the ROV's location and orientation in relation to the ship or offshore installation.

8.3.3.8 Verification of services rendered by the recognized firm.

All in-water surveys of ships and offshore installations shall be performed by the firm under supervision of the RS surveyor. The firm shall have the surveyor's verification of each separate job performed in accordance with the RS normative documents, documented in the report of the firm by the attending surveyor(s) signature and stamp".

New para 8.3.18 shall be introduced reading as follows:

"8.3.18 Requirements for firms engaged in survey using remote inspection techniques (RIT) as an alternative means for close-up survey of the structure of ships and offshore installations (code 22025600).

8.3.18.1 Terms and definitions.

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

Remote inspection techniques (RIT) — is a means of survey that enables examination of any part of the structure without the need for direct physical access of the RS surveyor (refer to IACS Rec. No. 42 — the latest revision). RIT may include the use of:

unmanned robot arms;
remotely operated platforms, including ROV;
unmanned aerial vehicles (UAV)
drones ;
climbers;
other means acceptable to RS.

8.3.18.2 Extent of engagement – close-up survey of ships’ structure and offshore installations’ structure by RIT. For in-water close-up survey of the internal compartments by ROV, firms shall also hold separate approval as a “firm carrying out an in-water survey on ships or offshore installations by diver or ROV” (refer to 8.3.3).

8.3.18.3 Training and qualification of operators.

The firm is responsible for the training and qualification of its operators to undertake the remote inspections. UAV and drone pilots shall be qualified and licensed in accordance with applicable national requirements or an equivalent industrial standard acceptable to RS.

Knowledge of the following shall be documented:

- marine and/or offshore nomenclatures;
- the structural configuration of relevant ships types, other floating facilities and offshore installations 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 or drones;
- thickness measurement (TM) and non-destructive testing (NDT) in accordance with a recognised national or international industrial NDT standard when these are part of the service. Firms undertaking TMs shall hold separate approval as a “Firm engaged in thickness measurements on ships and offshore installations”.

8.3.18.4 Training plan.

The firm shall maintain a documented training plan for personnel. The plan shall include requirements for training in the minimum RS rules requirements for the structure of relevant ships types, other floating facilities and offshore installations, the recognition of structural deterioration (including corrosion, buckling, cracking and deteriorated coatings) and use of the reporting system.

8.3.18.5 Supervisor.

The supervisor shall be certified according to the recognized national requirements or an equivalent industrial standard (e.g. XXX Level) if that is required by national legislation and shall have a minimum of two years’ experience in the inspection of ship’s and/or offshore installation’s structure.

8.3.18.6 Operators.

The operator carrying out the inspection shall be certified according to the recognized national requirements or an equivalent industrial standard (e.g. YYY Level) if that is required by national legislation and have had at least one year's experience as an assistant carrying out inspections of ship's and/or offshore installation's structure (including participation in a 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 and drone pilots shall be qualified and licensed in accordance with applicable national requirements).

8.3.18.7 Equipment.

The following shall be available for the firm:

- 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 NDT, as relevant to the work to be performed (when this is part of the service).

8.3.18.8 Procedures and guidelines.

The firm 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 or drones are part of the equipment.
- 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, RS 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 shall be stored, then requirements for location attribution (geo-tagging), validation and storage of data;

- requirements for the reporting of inspections, including the recording of damages and defects found during inspection and repair work.

8.3.18.9 Documentation and records.

The firm 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 any associated equipment necessary to perform inspections;
- equipment maintenance manuals and records/logbook;
- records of calibration;
- UAV, Drone Robot operation logbook.

8.3.18.10 Verification.

The firm shall have the RS surveyor's verification of each separate job, documented in the report by the RS attending surveyor(s) signature.

APPENDIX 1. NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

In the column 4 a superscript “*” (only upon the RHO authorization) shall be deleted for all items of technical supervision, except:

engines of more than 55 kW — code 09010000;

diesel-engine geared set — code 09016000;

turbochargers — code 09080200;

anti-fouling coatings of the ships' hulls — code 13370000MK.

In the column 4 the superscript “*” (only upon the RHO authorization) shall be assigned for turbochargers — codes 09080201, 09080202.

APPENDIX 6. PROCEDURE FOR TECHNICAL SUPERVISION DURING MANUFACTURE OF RADIO EQUIPMENT AND NAVIGATIONAL EQUIPMENT

The Appendix shall be renumbered as Appendix 3.



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 381-08-1143c

dated 20.06.2018

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

Materials and products

Implementation:
from 01.07.2018

Valid till:
--

Validity period extended till:
--

Cancels / amends / adds Circular Letter No. --

dated --

Number of pages: 1 + 22

Appendix(ces):

text of amendments to Part I "General Regulations for Technical Supervision"

Director General

Konstantin G. Palnikov

We hereby inform that the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products have been amended as specified in the Appendix to the Circular Letter:

1. separate definitions have been amended, new definitions have been introduced;
2. several regulations of technical supervision have been specified;
3. the Nomenclature of Items of the Register Technical Supervision has been amended;
4. new order of technical supervision of construction of the items of sections 04000000 – "Radio Equipment" and 05000000 – "Navigational Equipment" has been introduced;
5. the issued RS documents forms for separate items of technical supervision have been amended.

The complete text of the amendments is given in the Appendix to the Circular Letter. The amendments will be introduced to the Rules at their re-publication.

It is necessary to do the following:

1. Familiarize the surveyors of the RS Branch Offices with the content of the Circular Letter.
2. Bring the content of the Circular Letter to the notice of the interested organizations in the area of the RS Branch Offices' activity.
3. Apply provisions of the Circular Letter during survey of the Radio Equipment and Navigational Equipment.

List of ND amended and introduced paras/chapters/sections (to specify in the List of Circular Letters (form 8.3.36)):

part I: paras 1.1, 1.2, 2.4, 2.8, 2.19, 3.1, 3.3 – 3.6, 5.1, 6.11 – 6.14, Appendix 1 and Appendix 6

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"Thesis" System No. 18-23197

**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND
MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2018,**

ND No. 2-020101-040-E

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

1 TERMS, DEFINITIONS, ABBREVIATIONS

1.1 DEFINITIONS AND EXPLANATIONS

The following definition shall be introduced:

"Applicant is an organization (firm) which applies to RS with the request to perform the technical supervision. The Applicant can be the manufacturer, a designer, and/or other organization acting on behalf of the manufacturer. ";

the definition of "Manufacturer" shall be amended to read:

"Manufacturer is an organization (firm) which:

manufactures materials or products, or

carries out a part of operations (manufactures a part of products) which determine the quality of the material or product, or

carries out the final assembly of the product

The Manufacturer is responsible for the material or product compliance with the applicable RS requirements.";

the following definitions shall introduced:

"Major non conformity is the nonconformity effecting the safety of items of the RS technical supervision and repeated (two or more times) noncompliance with the prescribed requirements.

Minor non conformity is the single fold noncompliance with some requirements of the RS normative documents, improper drawing up of records. ".

1.2 ABBREVIATIONS

The following abbreviations shall be introduced:

"Technical supervision.

Quality Control System (CKK) Certificate – Certificate of quality control system compliance (form 7.1.28)

MC – Document drawn up by the manufacturer in which the material or product compliance with the RS requirements is declared.

M – Document drawn up by the manufacturer according to the standards of the company; it shall contain data satisfactory for RS.

CTO MR - EU RO Mutual Recognition Type Approval Certificate – Type Approval Certificate (form 6.8.3mr). "

2 GENERAL

Para 2.4. The text "Items not regulated by the RS rules" shall be amended to read "Items other than provided by the RS rules, "

Para 2.8 after the words "...in case documents of the Register ... are available..." shall be supplemented by the phrase ", or manufacturer's documents, in cases provided by the RS rules," the words "...on its behalf" shall be amended to read "...on behalf of the Register."

Para 2.19. The first sentence shall be amended to read: "Technical supervision during manufacture of materials and products is performed in relation of those properties, parameters and characteristics indicated in the approved technical documentation and regulated by the RS rules."

3 SERVICES RENDERED IN TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS. DOCUMENTS ISSUED

Para 3.1 shall be supplemented by the following text:

"Approval of serial materials and products with issue of C,C3;

single approval of materials and products with issue of C;

quality control system approval by the Register with issue of the Quality Control System (CKK) Certificate. "

Para 3.3. The following text shall be introduced:

"Quality Control System (CKK) Certificate – a document certifying the compliance of the quality control system of the manufacturer with the RS rules;

MR Type Approval Certificate (CTO MR) – a document certifying the compliance of the material and product types or product groups with the requirements of the European Union type approval mutual recognition procedure (refer to Section 6);"

Para 3.4. The first sentence shall be amended to read: "Validity period of the Quality Control System (CKK) Certificate, Recognition Certificate for Manufacturer (СПИ), Recognition Certificate of Testing Laboratory (СПЛ), and Certificate of Firm Conformity (ССП) shall not exceed five years. ".

In the second paragraph the phrase "in cases that: " shall be amended to read "if an item of technical supervision has been found non-complying with the RS requirements including the information from a third party. ".

Paras 3.4.1 and 3.4.2 shall be deleted.

Paras 3.5 and 3.6. After the "Certificate of Firm Conformity (ССП) " the "Quality Control System (CKK) Certificate " shall be introduced.

5 TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS

Para 5.1. After the seconds paragraph Notes 1 and 2 reading as follows shall be introduced:

"N o t e 1. Regarding the items of technical supervision of the group – 04000000 Radio equipment and group 05000000 – Navigational equipment, the provisions of Appendix 6 shall be applied for technical supervision from 01.07.2018.

N o t e 2. For the manufacturers of items of technical supervision of the group – 04000000 Radio equipment and group 05000000 – Navigational equipment, the technical supervision procedures given in Appendix 1 shall be used from 01.07.2018 to the date of expiry of the Agreement on Survey (CO) provided the manufacturers signed the Agreement on Survey (CO) before 01.07.2018. At the discretion of the manufacturer, the technical supervision procedures given in Appendix 6 can be used. ".

6 TYPE APPROVAL OF MATERIALS, PRODUCTS, PRODUCTION PROCESSES, AND SOFTWARE

shall be supplemented with **paras 6.11 – 6.14** reading as follows:

"6.11 Type Approval Certificate (COTO), Type Test Certificate (COTИ), EIAPP – Certificates issued by RS according to the provisions of MARPOL 73/78 and applicable resolutions. The certificates shall be drawn up by the RS surveyors and signed by heads of the RS Branch Offices. Validity period of the Type Approval Certificate (COTO), Type Test Certificate (COTИ), EIAPP is not specified.

6.12 The MR Type Approval Certificate (CTO MR) shall be issued for the confirmation of products compliance with the requirements of the European Union mutual recognition procedure (hereafter – the EU Procedure)¹. The Validity period of MR Type Approval Certificate (CTO MR) shall not exceed five years. Terms of the MR Type Approval Certificate (CTO MR) validity and suspension are specified in the EU Procedure.

6.13 Items of Technical Supervision for which the MR Type Approval Certificate (CTO MR) can be issued are specified in the Nomenclature of items of TS. Restrictions concerning the usage of items of Technical Supervision are specified in the relevant engineering specifications of the EU Procedure.

6.14 The products approved by ACS in compliance with the EU Procedure, shall be allowed to be installed at the RS classified objects provided they are manufactured during the validity period of the certificates of type approval issued by ACS, which confirm meeting of the requirements of this procedure. The EU procedure shall not be applied, and products cannot be allowed to be installed at vessels in case the Administration directs that the products approved by the EU Procedure are inapplicable to the installation.

6.15 If it is found out during the supervision that the material, product or its element do not correspond to the MR Type Approval Certificate (CTO MR), the Register can reject the installation of this material or product at the ship. In such case, the classification society that issued the MR Type Approval Certificate (CTO MR) shall be immediately informed about the rejection and its reasons."

¹The EU mutual recognition procedure and technical requirements to the products are available at - www.euromr.org

APPENDIX 1

NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

The types of Technical Supervision for the codes of section **19000000MK** "**EQUIPMENT AND ARRANGEMENTS FOR THE PREVENTION OF POLLUTION FROM SHIPS**" shall be amended to read: "

19020200MK	15 ppm bilge separators (resolution MEPC.107(49))	P	CTO, COTO	C3		P	P	P
19030100MK	Oil discharge monitoring and control systems for oil tankers (resolution MEPC. 108(49) as amended)	P	CTO, COTO	C3		P	P	P
19030202MK	15 ppm bilge alarms (resolution MEPC.107(49))	P	CTO, COTO	C3		P	P	P
19040000MK	Oil/water interface detectors in slop tanks	P	CTO, COTI	C3		P	P	P
19080000MK	Incinerators	P	CTO, COTO	C3		P	P	P
19090000MK	Sewage treatment plants (resolution MEPC.227(64))	P	CTO, COTI	C3		P	P	P
19090001MK	Sewage treatment plants (resolution MEPC.159(55))	P	CTO, COTO	C3		P	P	P
19170100MK	Diesel engine exhaust gas cleaning systems in accordance with the requirements of IMO resolution MEPC. 184(59), the survey under Scheme A	P	CTO, SECC	C3				

New **Appendix 6** shall be introduced reading as follows:

"APPENDIX 6

PROCEDURE FOR TECHNICAL SUPERVISION DURING MANUFACTURE of RADIO EQUIPMENT AND NAVIGATIONAL EQUIPMENT

Regarding the items of technical supervision of group – 04000000 Radio Equipment and group 05000000 – Navigational Equipment from 01.07.2018 during technical supervision the provisions as amended of existing Sections 1 – 4, 7 – 15 of Part I "General regulations for technical supervision" of the Rules, and Sections 5 –7 given below of the Appendix shall be applied in the Appendix, reading as follows:

Para 4.5 of Section **"4 REQUESTS, CONTRACTS AND AGREEMENTSON TECHNICAL SUPERVISION"** shall be amended to read:

"4.5 The contract on technical supervision ceases to be valid in case of inadequate fulfilment of the commitments under the contract, payments for the RS services included or in the following cases:

- .1 upon expiry of type approval for material or product manufactured by the firm (manufacturer);
- .2 subject to non-compliance of the firm (manufacturer) with the survey requirements;
- .3 if the Quality Control System (CKK) Certificate becomes invalid in compliance with 3.6;
- .4 upon expiry of validity of the contract;
- .5 cancellation of the contract if desired by the parties who signed it.";

Sections 5 – 7 reading as follows shall be introduced:

"5 TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS

5.1 Materials and products used in construction of ships and floating facilities classed with the Register shall be allowed to be installed subject to the availability of the certificate of conformity or other documents confirming their compliance with the RS requirements, conventions or the IMO recommendations.

The list of materials and products subject to mandatory technical supervision is given in the RS Nomenclature (refer to Annex 1).

In separate cases, at the RS discretion, technical supervision may be performed regarding the materials and products not contained in the RS Nomenclature, which are newly developed or are the components of the products listed in the RS Nomenclature and which functionally provide the safety of the items of technical supervision (refer to 2.4).

5.2 When determining forms of technical supervision, items of Technical Supervision shall be divided into 5 groups. Possible schemes of technical supervision during the manufacture of materials and products for different groups are given in Table 5.2 and Fig. 5.2. In case of a single approval of the equipment of groups 2 - 4, the materials or products are surveyed to the extent of group 5. This procedure can be also used for the statutory equipment if it is allowed by the provisions of conventions, resolutions, and/or additional requirements of the Maritime Administration. Where a single approval is issued to single products, approval of technical documentation and survey results for the prototype cover only the material or product for which the certificates of conformity have been issued.

5.3 The compliance of materials and products with the RS requirements shall be confirmed by the following documents:

- .1 Certificate filled-in and signed by the Register (C);
- .2 Certificate filled-in and signed by an official of the firm (manufacturer) and drawn up (affirmed) by the Register (C3).
- .3 MC – a document drawn up by the manufacturer in which the material or product compliance with the RS requirements is declared.
- .4 M – a document drawn up by the manufacturer according to the standards of the company; it shall contain data satisfactory for RS.

5.4 The contents of the certificates (C, C3) and the MC document shall identify the material or product, their types, main parameters, as well as the manufacturer of materials and products.

MC shall at least contain:

address of the manufacture place;

name of technical documentation on an item and date of its approval by RS;

name, type or grade of the material or product;

manufacturing or serial number, lot number (as relevant);

name of the document containing data on the surveys and tests performed by the firm (manufacturer);

number, issue date, and validity period of the Type Approval Certificate (CTO);

company statement of the item compliance with the approved type specified in the Type Approval Certificate (CTO) or approved technical documentation;

signature of the authorized person of the firm (manufacturer).

Validity period of the certificates and documents (C, C3, MC, M) is not specified.

For the products of group 2, the contents of MC shall be coordinated during the type approval.

5.5 In order to obtain the Certificate (C), if there is no Type Approval Certificate (CTO), the request shall be applied together with the technical documentation on the materials or products to the extent regulated by the RS rules.

5.6 Upon review of the technical documentation, the Register shall send a conclusion letter to the Applicant. Where deemed necessary, the Applicant shall submit the testing programme to the Register to be agreed upon.

5.7 The items of technical supervision are surveyed by the Register at the final stage of production (finished products) after acceptance of the products by the manufacturer technical control body and issue of the appropriate documents.

In cases when it is motivated by the production process, the RS rules, and/or design of the product, at the discretion of the Register, surveys may be carried out on a step-by-step basis and simultaneously with the manufacturer's control.

Surveys at the intermediate stages of production of the items to technical supervision are carried out in the cases prescribed by the Register after completion of manufacturer's functional control or at the discretion of the Register, if motivated by the particular conditions of production.

Tests can be carried out in the laboratories recognized by the Register and/or in laboratories that have state accreditation for carrying out the appropriate type of tests.

5.8 The Manufacturer shall provide for the performance of technical supervision by the Register, i.e.:

provide the technical documentation necessary for work, particularly the factory records of the product quality control;

prepare the items of technical supervision to perform the survey to the extent required;

ensure safety of surveys;

provide for the presence of the officials authorized to present the items of technical supervision to surveys and tests;

timely notify the Register on time and venue of surveys and tests of the items of technical supervision.

If the Manufacturer fails to comply with the terms of the technical supervision performance, the Register may refuse to carry out the surveys to witness tests.

5.9 Where the firm (manufacturer) fabricates forgings, castings, machinery and equipment components, as well as mass-production products (ship fittings, hull fittings, etc.) for own production (further processing, assembling, construction), technical supervision may be confirmed by the manufacturer documents affirmed by the Register.

Where the above products are fabricated by the same firm (manufacturer) for cooperation shipments or as the spare parts, the supervision shall be confirmed by the certificates and documents (C, C3, MC, M) according to the RS Nomenclature.

5.10 Signing of the issued certificates of compliance and manufacturer documents are allowed to carry out by digital signature or by signing and stamping in hard copy.

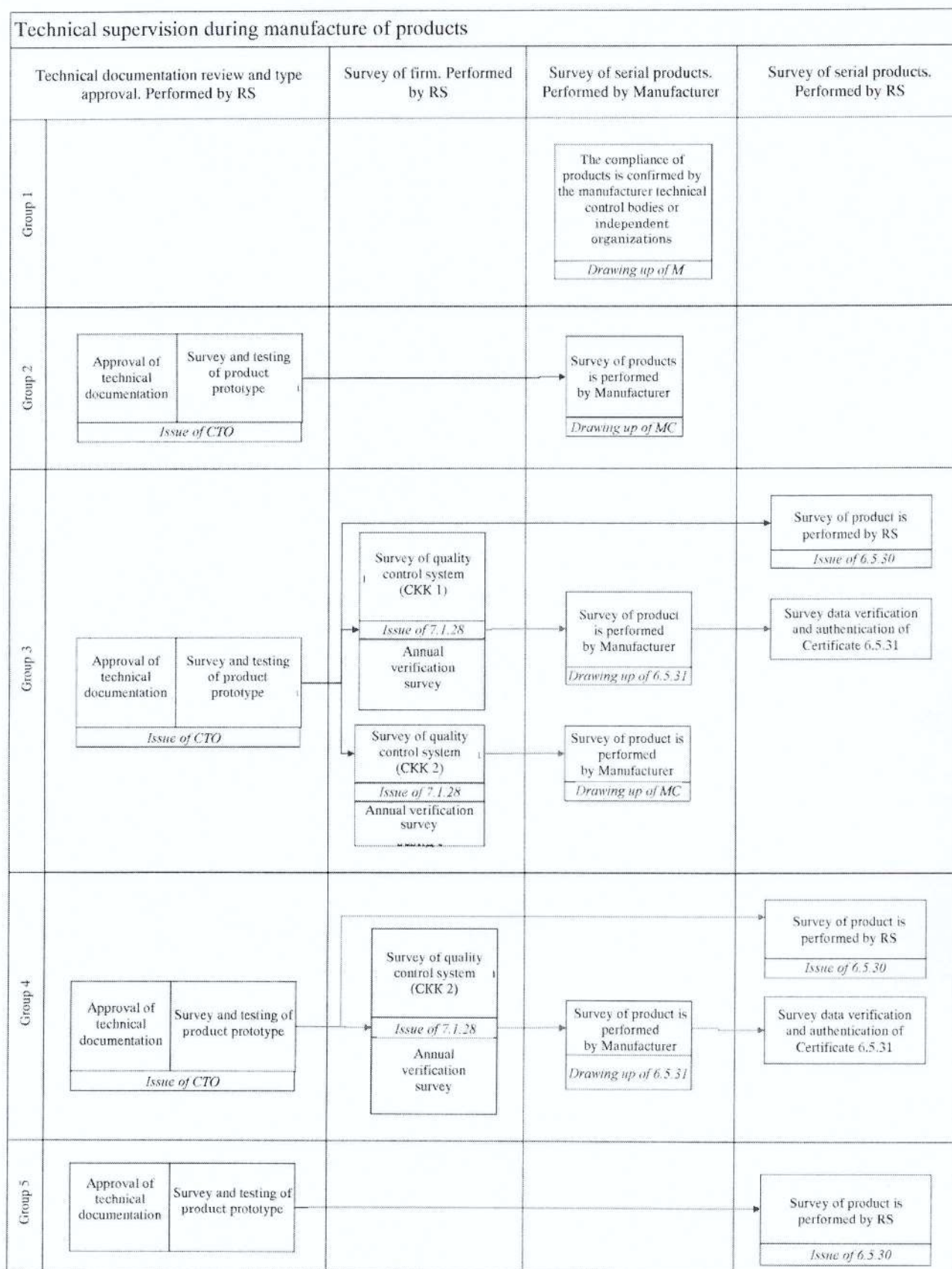


Fig. 5.2

6 TYPE APPROVAL OF MATERIALS, PRODUCTS, PRODUCTION PROCESSES, AND SOFTWARE

6.1. GENERAL

6.1.1 The Type Approval Certificate (CTO) is a document of the Register, which certifies that a construction, properties, parameters, characteristics of a type material or product found in the course of surveys and indicated in the approved technical documentation, meet the RS requirements and may be used for ships and items of technical supervision for the intended purpose.

6.1.2 The Type Approval Certificate (CTO) can be issued to the manufacturer of a material or product, or to the firm placing this products on the market under their trademark and claiming that they are the manufacturers of materials or products even if the design and/or manufacture and/or assembly are partially or completely given to another enterprise under the Agreement for Contract Manufacturing.

The following terms shall be observed:

the firm is the technical documentation owner or has the documentary confirmation from the owner regarding the possibility to use the technical documentation in order to obtain a separate Type Approval Certificate (CTO);

the firm assumes liabilities for ensuring the compliance of a material or product with the RS requirements;

when submitting a request, the firm shall inform the Register about other enterprises engaged in the design, manufacture or assembly of the finished material or product.

Note . Contract manufacturing (OEM) is the manufacture of materials and products at the manufacturer's enterprises and production sites independent of the Type Approval Certificate (CTO) holder with the observance of the process cycle and quality control of the finished products according to the Register requirements.

6.1.3 The Type Approval Certificate (CTO) certifies that the approval of the technical documentation and satisfactory results of surveys of the material or product prototype are accounted for by the Register in technical supervision of these materials and products manufactured under the established production conditions and intended for multiple deliveries to ships and floating facilities of various types.

6.1.4 In order to obtain the Type Approval Certificate (CTO) the manufacturer shall apply to the Register with a request and submit the technical documentation on the material, product, software or production process, as well as the test programme. When reviewing and approving the documentation, the scope of surveys during the manufacture and testing of specimens shall be specified.

6.1.5 The Type Approval Certificate (CTO) is issued by the Register upon approval of the technical documentation and satisfactory results of the surveys of the material, product, software or production process submitted.

For the material or product manufactured according to the established production process the Type Approval Certificate (CTO) is issued, having regard to the data on earlier tests, production and operation experience. Account may be taken of the Type Approval Certificate (CTO) of ACS or competent body or results of the tests of a type specimen performed with the participation of the above organizations. The number of documents to be submitted is in each case specified proceeding from the material or product type.

6.1.6 The Type Approval Certificate (CTO) is issued for a period of up to 5 years.

6.1.7 Validity of the Type Approval Certificate (CTO) shall not exceed the period of approval of the technical documentation of the item of technical supervision.

6.1.8 After the expiry of validity, the Type Approval Certificate (CTO) is renewed on request from the Manufacturer. If during the validity of the Type Approval Certificate (CTO) there were no new RS requirements to TS items coming into effect, and the manufacturer confirms the stability of the construction, software, and earlier stated technical characteristics of the material and/or product, the Type Approval Certificate is renewed based on the documentation review and the material and/or product survey to the extent of serial materials and products unless otherwise stipulated in the appropriate sections of the Rules.

In case of amendments, the scope of surveys and tests shall be coordinated with the Register regarding the influence of the amendments on the material and/or product characteristics.

6.1.9 For welding consumables the Certificate of Approval for Welding Consumables (COCM) is issued, being at the same time the document certifying recognition by the Register of the firm as the manufacturer of welding consumables in accordance with the requirements of the RS rules.

The Certificate of Approval for Welding Consumables (COCM) is issued for a period of up to 5 years subject to its annual endorsement.

6.1.10 The Welding Procedure Approval Test Certificate (COTΠC) is a Register document certifying that a welding procedure used at a shipyard or manufacturer of welded structures has been tested and approved by the Register for application.

The Welding Procedure Approval Test Certificate (COTΠC) shall be endorsed not less than once every 2.5 years.

7. SURVEY OF SERIAL PRODUCTS

7.1 GENERAL

7.1.1 The Section contains the regulations on technical supervision during manufacture and tests of serial products at established production.

7.1.2 The Register technical supervision during manufacture and tests of serial products at established production shall be carried out in accordance with the

requirements of the relevant Sections of Part IV "Technical Supervision during Manufacture of Products" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, and the RS Nomenclature.

7.1.3 Serial products are tested according to the Register approved test program.

7.1.4 The following types of technical supervision shall be provided.

Direct technical supervision. All prescribed surveys are carried out by the Register.

Survey approved by the Quality Control System (CKK 1) of the firm. The technicians of the firm shall carry out check tests and fill in certificates of compliance. The firm (manufacturer) shall submit the test results to the Register for consideration as well as certificates of compliance (C3) for endorsement.

Survey approved by the Quality Control System (CKK 2) of the firm. Approval when RS estimates the manufacturing processes of the firm and/or its suppliers from the point of view of ensuring the performance of surveys and tests prescribed by the RS rules, at all stages of the manufacturing cycle. Depending on the TS group an item belongs to, the document certifying the compliance with the requirements shall be either the document of the firm (MC), or the certificate of compliance (C3).

7.1.5 The Quality control system (CKK) is a set of procedures providing control of compliance of the production with the RS requirements and control of materials and products used by the manufacturer during the serial manufacture.

7.1.6 The Quality control system (CKK) shall clarify:

the extent of the required examinations and tests;

to which extent and under which conditions the manufacturer may perform all or part of the required examinations and tests without the presence of the RS Surveyor when the RS Certificate (C3) is required.

7.1.7 The Quality Control System (CKK) Certificate is the certificate of compliance of the quality control system drawn by up the surveyor and signed by the head of the Branch Office.

7.1.8 If the materials or products specified in the Type Approval Certificate (CTO) are manufactured, completely or partially, at different enterprises (production sites), each enterprise (production site) where verifications, examinations and tests prescribed by the RS requirements are planned to be performed, shall be surveyed within the approval of the quality control system. In this case, a separate Quality Control System (CKK) Certificate can be issued for the surveyed enterprise (production site) in addition to the Quality Control System (CKK) Certificate issued to the manufacturer – the holder of the Type Approval Certificate (CTO)

In case of the manufacture of materials or products under the Agreements for Contract Manufacturing, the Quality Control System (CKK) Certificate of the manufacturer – the holder of the Type Approval Certificate (CTO) can include Type Approval Certificates (CTO) issued to the company which has signed the Agreement for Contract Manufacturing. Validity period of such Type Approval Certificates (CTO) shall not exceed the validity period of the Type Approval Certificate (CTO) issued to the manufacturer – the holder of the Type Approval Certificate (CTO).

7.1.9 Serial products shall be supplied with the certificates or documents (C, MC, or C3), depending on the TS group (2-5) (refer to Table 5.2 of Section 5) of an item and the scheme of technical supervision applicable to the group

7.1.10 In order to estimate the compliance of the Quality Control System (CKK) with the RS requirements, the Register shall verify if there is a type approval for the manufactured products, approval of production processes (if applicable) and perform the initial survey of the firm. In order to verify if the manufacturer observes the requirements to the Quality Control System (CKK), the Register shall perform periodical surveys.

7.1.11 In cases provided by the Rules, the Register can perform unscheduled surveys of the manufacturer and/or its supplier;

7.1.12 The Quality Control System (CKK) Certificate may be renewed subject to the survey. The scope of the renewal survey shall:

verify if the conditions of the Quality Control System approval specified in Chapters 7.3 and 7.4 are observed;

verify that the check tests and examinations of the manufactured production included in the Quality Control System (CKK) Certificate are appropriately controlled.

7.2 DIRECT TECHNICAL SUPERVISION

7.2.1 As a rule, the survey shall be performed at the manufacturer's. During the survey, the manufacturer or applicant, in the presence of the Register representative, shall perform all examinations and tests specified in the preliminary agreed program.

7.2.2 In case of satisfactory results of the survey, the Register shall draw up the Certificate of compliance (C).

7.3 SURVEY APPROVED BY QUALITY CONTROL SYSTEM (CKK 1) OF THE FIRM

7.3.1 The Register can charge the manufacturer's technicians with the performance of check tests or their part, which shall be drawn up by the Certificate of compliance of the Quality Control System (CKK 1).

7.3.2 The Quality Control System (CKK 1) Certificate can be drawn up based on the survey of the manufacturer to the extent and in accordance with Sections 7 and 10, as well as the type approval of the material or product (refer to Section 6).

7.3.3 When drawing up the Quality Control System (CKK 1) Certificate, the Agreement on technical supervision shall be signed with the manufacturer. The Agreement on technical supervision shall include the manufacturer's rights and obligations, duties of the Register, and terms of payment to the Register for the implementation of technical supervision.

7.3.4 In order to ensure the compliance with the RS requirements to the manufactured products, drawing up of the supporting documentation, filling in and signing of the RS documents, and also the observance of the Quality Control System (CKK 1) Certificate requirements, the manufacturer shall be an official who has a competent knowledge of the manufacture and quality control of items of technical supervision.

7.4 SURVEY APPROVED BY QUALITY CONTROL SYSTEM (CKK 2) OF THE FIRM

7.4.1 Scope of application.

7.4.1.1 The procedure of the quality control system (CKK 2) approval is applied to the manufacturers of the materials and products of groups 3, 4 (refer to Table 5.2 of Section 5) with the Type Approval Certificate of the Register.

7.4.1.2 For the manufacturer the Quality Control System shall define the incoming audit of the subcontracted materials and products which are items of the RS TS (those that require the RS certificates or firm's (manufacturer's) documents. There can be the following forms of the incoming audit organization:

materials and products are supplied according to the RS Nomenclature, or
the supplier can be included in the Quality Control System of the manufacturer.

7.4.2 Requirements for Quality Control System:

7.4.2.1 The manufacturer shall conform to the general requirements for the firms, listed in Section 7.

7.4.2.2 The manufacturer shall have an implemented Quality Management System according to a national or international standard approved by an accredited certification body. The availability of the Quality Management System certified for compliance with the current version of ISO 9001 is sufficient to meet the condition;

7.4.2.3 the manufacturer has a quality control system, current drawings, and rules and standards that cover the materials and products to be certified;

7.4.2.4 the manufacturer assumes liabilities for ensuring the compliance of serial products with the type approval;

7.4.2.5 the examinations and tests required by the RS rules are either procedures of the Quality Management System of the manufacturer, or separate documents agreed with RS;

7.4.2.6 The type of the RS documents (C / C3 / MC / M) confirming the compliance of components of the manufactured products with the RS requirements shall be agreed with RS. If the documents on components do not correspond to the list agreed with RS, by the form and/or contents, such components shall not be allowed to be used.

7.4.2.7 manufacturers commit themselves to notify the Register when changes to the design, manufacturing process or testing are made;

7.4.3 Available information and documents

7.4.3.1 The Register shall estimate the opportunity to perform technical supervision according to the Quality Control System (CKK 2) procedure. The manufacturer shall provide the following data for the assessment:

- .1 material or product details;
- .2 the existing RS approvals of the manufacturer's products as far as required;
- .3 the procedures relevant to the manufacturing process;
- .4 data on all production sites where products are manufactured;
- .5 a list of material suppliers and main components with an indication of their approval by the Register (as far as required by the RS rules) and the type of technical supervision in each case. Thus, the type of the RS documents and/or manufacturers' these components are supplied with shall be agreed as well;
- .6 quality control plans relevant to the products and relevant components to be certified according to the requirements to the Quality Control System. The plans shall detail the types of surveys covered by the RS rules with an indication of which of them are delegated to the manufacturer and which shall be done in the presence of the RS Surveyor;
- .7 the procedures relevant to the quality control, examinations and tests of the materials and products, including the methods, frequency of performance;
- .8 Forms of records on tests and examinations, and also forms of documents (MC) specified in 5.4;
- .9 the Quality Management System details;
- .10 list of the personnel assigned for:
 - marking/stamping of products;
 - tests and examinations (responsible persons);
 - drawing up of data and information (e.g. declaration of conformity, test reports, etc.);

.11 The manufacturers of items of the RS technical supervision with codes 06010100MK, 06020000, 07010008, 07010009, 0700600, 07020300, 07020301, 08011400MK, 08030000, 08120000MK, 09010000, 09020000, 09024000, 09025000, 09030000, 09040000, 09050000, 09060000, 09060100, 09070000, 09080000, 9100000, 09120000, 10010000, 10020000, 10030000, 11000000 (as regards insulation materials), 12090000 and other items specified in IACS UI SC249 shall provide procedures for control of the purchased asbestos-free materials and components. This procedure shall include the following:

- methods of assessment and selection of suppliers;
- procedures for checking of the supplied asbestos-free products;
- drawing-up of asbestos-free declarations as supporting documentation for the manufactured item of technical supervision

.12 any other additional data that the Register may require in order to evaluate the manufacturing process and product quality control.

7.4.3.2 The documentation provided shall be reviewed regarding the compliance with the requirements of Parts III "Technical Supervision during Manufacture of Materials" and IV "Technical Supervision during Manufacture of Products"..

7.4.4 Manufacturer's survey procedure

7.4.4.1 After completion of the review of the Quality Control System documentation set, the survey of the manufacturer's branch offices shall be carried out by the Register. The survey shall verify that the incoming audit of the materials and components, the manufacture and testing of the items of technical supervision shall be performed in accordance with the approved Quality Control System documentation and be in compliance with the requirements laid down in the Quality Control System documentation and the RS rules. Upon satisfactory results of the survey, the Quality Control System (CKK 2) Certificate shall be issued in which the extent, terms, and provisions of the quality control system are registered.

7.4.4.2 During the periodical survey:

- information on products manufactured during the previous period, data on the examinations, checks and tests performed during the manufacture, data on claims shall be provided,
- availability of current Type Approval Certificates (CTO), compliance of drawn up records on the manufactured materials and/or products shall be verified,
- check surveys and tests of manufactured products and/or materials shall be performed. "

Section "10 Recognition of manufacturers" shall supplemented with **para 10.2.5** reading as follows:

"10.2.5 Quality System

10.2.5.1 The firm shall have a documented system covering at least the following:

- .1 the Code of Ethics to conduct the relevant activity;
- .2 maintenance of equipment;
- .3 measurement assurance, checking (calibration) of measuring equipment;
- .4 training programs for operators/technicians/inspectors;
- .5 supervision and verification to ensure compliance with operational procedures;
- .6 recording and reporting of information;
- .7 quality management of subsidiaries, agents, and subcontractors;
- .8 job preparation;
- .9 corrective and preventive actions related to complaints;
- .10 periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents. ";

Annex 1 shall be introduced reading as follows:

"Annex 1

NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

1. Nomenclature of Items of the Register Technical Supervision is a list of materials, products, production processes, and software regulated by the RS rules.
2. Definitions and abbreviations given in Section 1 of Part I "General Regulations for Technical Supervision" of these Rules are used in the RS Nomenclature, as well as:

K – branding of items of technical supervision;

MK – item subject to technical supervision in compliance with the requirements of international conventions.

3. The RS Nomenclature is presented in the form of the table comprising 6 columns.

Column 1: "Code of item of technical supervision" – identification code of the material, product, production process or software is indicated, which consists of eight characters grouped in the following groups, each group consisting of two characters:

1st group – part of the RS rules, serial number;

2nd group – groups of machinery, systems, constructions, materials, production processes, software;

3rd group – types of machinery, systems, constructions, materials;

4th group – parts, assemblies;

5th group (“letter group”) – items of technical supervision covered by the international conventions.

Column 2 “Item of technical supervision” – name of the material, product, production process or software according to the RS rules is indicated.

Column 3 “Group of TS item” – number of TS item group is indicated according to which the technical supervision type is given. TS forms for the groups are described in Table 5.2;

Column 4 “Other documents issued by RS.” The RS documents issued in addition to (Type Approval Certificate (COTO), Type Test Certificate (COTI), EIAPP) or instead of (Type Approval Certificate for Fire-Proof Division (СТПК), Recognition Certificate for Manufacturer (СПИ), Certificate of Approval for Welding Consumables (COCM)) the ones specified in Table 5.2 or issued according to other standards (The EU mutual recognition procedure) are indicated.

Column 5 “branding” – obligation of branding of items of technical supervision in compliance with the Instructions on Branding of Items of the Register Technical Supervision (refer to Appendix 2) is indicated.

Column 6 “Notes” – additional information (requirements) is indicated.

4. RS Nomenclature contains the following sections:

04000000MK Radio equipment

05000000MK Navigational equipment

NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

Code of item	Item of technical supervision	Technical supervision of the Register			
		TS item group (1-5)	Other documents issued by RS	Branding	Notes
1	2	3	4	5	6
04000000MK	RADIO EQUIPMENT				
04020000	Wireless telephone communication facilities:				
04020900	metric waves station	3		–	
04021100	decimetric waves station	3		–	
04021200MK	VHF-equipment of two-way wireless telephone communication with aircrafts	3		–	
04030500	portable radio station	2		–	
04040000MK	Command broadcast facilities (command broadcast apparatus, public address system, microphone posts)	3			
04070000	Aerial	2		–	

Code of item	Item of technical supervision	Technical supervision of the Register			
		TS item group (1-5)	Other documents issued by RS	Branding	Notes
1	2	3	4	5	6
04080000	Marine clocks for radio rooms	2		—	
04090000	Satellite radio communication equipment	3		—	
04110000MK	GMDSS radio equipment:				
04110100MK	digital selective calling (DSC) encoder	3		—	
04110200	facsimile device	2		—	
04110300MK	terminal printing device	3		—	
04110400MK	telephony and NBDP receiver	3		—	
04110500MK	telephony, DSC and NBDP transmitter	3		—	
04110600MK	VHF radiotelephone station	3		—	
04110700MK	MF radiotelephone station	3		—	
04110800MK	MF/HF radiotelephone station	3		—	
04110900MK	direct-printing apparatus of improved fidelity	3		—	
04111100MK	radio equipment power supply device, automatic battery charger	3		—	
04111200	GMDSS workstations	2		—	
04120000MK	VHF radio installation (set)	3		—	
04130000MK	MF radio installation (set)	3		—	
04140000MK	MF/HF radio installation (set)	3		—	
04150000MK	INMARSAT ship earth station	3		—	
04150100MK	INMARSAT ship earth station with EGC receiver	3		—	
04150200MK	ship security alert system (SSAS)	3		—	
04160000MK	COSPAS-SARSAT satellite EPIRB	3		—	
04170000MK	VHF EPIRB using DSC on channel 70	3		—	
04180000MK	NAVTEX service receiver	3		—	
04190000MK	enhanced group calling (EGC) receiver	3		—	
04200000MK	DSC watch receiver	3		—	
04210000MK	HF direct-printing radiotelegraph receiver	3		—	
04220000MK	radar transponder	3		—	
04220100MK	ship's and survival craft AIS search and rescue transmitter (AIS-SART)	3			
04230000MK	two-way VHF radiotelephone apparatus	3		—	
04240000	diagnosis and checking systems for GMDSS equipment	2		—	
04250000MK	integrated GMDSS radio communication system	3		—	
04400000	radio equipment not mentioned above	2		—	

Code of item	Item of technical supervision	Technical supervision of the Register			
		TS item group (1-5)	Other documents issued by RS	Branding	Notes
1	2	3	4	5	6
04410000	Ship security surveillance TV system (video surveillance system)	2		—	
05000000MK	NAVIGATIONAL EQUIPMENT				
05010000MK	Magnetic compasses (standard, spare, lifeboat) including compasses with remote reading systems	3			
05010100MK	Transmitting heading devices (THD)	3		—	
05020000MK	Gyrocompasses	3		—	
05030000MK	Logs (speed and distance measuring devices)	3		—	
05040000MK	Deck logs	2		—	
05050000MK	Echo sounders	3		—	
05060000MK	Heading control systems/track control systems	3		—	
05070000MK	Integrated navigation systems	3		—	
05080000	Combined ship's workstations	2		—	
05090000	Horizontal sonar navigational systems	2			
05100000MK	Gyro-magnetic compasses and gyro-azimuths	3		—	
05110000	Unified timing systems	2		—	
05120000MK	Rate-of-turn indicators	3		—	
05130000MK	Electronic chart display and information system (ECDIS)	3		—	
05140000MK	Radio navigation equipment:				
05140210MK	radar equipment intended for ships below 500 gross tonnage	3		—	
05140220MK	radar equipment intended for ships below 10,000 gross tonnage	3		—	
05140230MK	radar equipment intended for ships of 10,000 gross tonnage and upwards	3		—	
05140240MK	radar ice display	3		—	
05140250	radar equipment intended for ships below 300 gross tonnage	3		—	
05140300MK	Radio navigation system receivers	3		—	
05140400MK	Ship's radar reflectors (shipborne and for lifesaving appliances)	3		—	
05150000MK	Equipment of the universal automatic identification system (UAIS), class "A"	3		—	
05150000	Equipment of the automatic identification system (AIS), class "B"	3		—	
05160100MK	Voyage data recorders (VDR)	3		—	
05160200MK	Simplified voyage data recorders (S-VDR)	3		—	

Code of item	Item of technical supervision	Technical supervision of the Register			
		TS item group (1-5)	Other documents issued by RS	Branding	Notes
1	2	3	4	5	6
05170000MK	Sound reception systems	3		—	
5180000	Alarm and communication systems (for OMBO ships)	2		—	
05190000MK	Bridge navigational watch alarm systems (BNWAS)	3		—	
05200000MK	Equipment for long-range identification and tracking of ships (LRIT)	3			
5210000	Remote camera systems	2		—	
05220000	Hydrometeorological complexes	2		—	
05220100MK	HSC night vision equipment	3		—	
5220100	Night vision equipment	3		—	
05300000	Navigational equipment not mentioned above	2		—	

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RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 381-08-1170c

dated 20.11.2018

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

material, product, activities, ship

Implementation:

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-

Cancels / amends / adds Circular Letter No.

dated --

Number of pages:

1+5

Appendix(-ces):

text of amendments to Part I "General Regulations for Technical Supervision"

Director General

K.G. Palnikov

Text of CL:

We hereby inform that based on the proposals received to SRPAA, the amendments given in the Appendix to this Circular Letter shall be introduced into the Rules for Technical Supervision During Construction of Ships and Manufacture of Materials and Products for Ships. The above amendments will be introduced into the Rules at their re-publication.

It is necessary to do the following:

1. Familiarize the surveyors of the RS Branch Offices with the content of the Circular Letter.
2. Apply provisions of the Circular Letter.
3. Clarify the provisions of the Circular Letter to all interested parties in the area of the RS Branch Offices' activity.

List of amended and introduced paras/chapters/sections (to specify in the List of Circular Letters (form 8.3.36)):

Part I: para 8.3.15- new revision. New paras 9.3.9.4, 9.3.12.5

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"Thesis" System No.

No. 18-273707 of 12/10/2018

**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND
MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS (2018)
ND No. 2-020101-040-E**

Part I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

8 RECOGNITION OF SERVICE SUPPLIERS

8.3 SPECIAL REQUIREMENTS

Para 8.3.15 shall be amended to read:

"8.3.15 Special requirements for firms engaged in expertise of safe carriage of bulk cargoes by sea **(code 22023000MK).**

8.3.15.1. The firm whose recognition was cancelled due to major nonconformities of the firm activity with the Register requirements, may apply for re-recognition, provided it has complied with 8.1.5.3. While doing so, the Register shall carry out direct supervision for the firm activity for 5 years.

8.3.15.2 If the decision is taken on possible provision of services by the firm compliant to the RS requirements, the following shall be regarded to provide the safety of navigation:

- .1** competence and qualification compliant to 8.2.2 – 8.2.11 and 8.3.15;
- .2** previous firm area of activity in the indicated area;
- .3** review results of the current firm activity on implementation of provisions of the RF international contracts and the RF legislation in the area of merchant shipping and environmental protection in the area of activity;
- .4** results of control and supervision over the firm activities by the authorized bodies of the Russian Federation;
- .5** petitions by citizens, non-governmental organizations and other persons concerned, including foreign, as regards the firm activity.

8.3.15.3 Legal status.

8.3.15.3.1 The firm and its personnel shall not be involved in any activities that may impair their independence and impartiality in respect of services rendered. The firm and its personnel involved in this kind of activity shall not interact with the developer, manufacturer, supplier, purchaser, owner, user or accompanying person (forwarder / agent), shipowner and underwriter or any representative thereof.

8.3.15.3.2 The firm activities on expertise of safe carriage of bulk cargoes by sea shall be independent on any other kind of commercial activities.

8.3.15.3.3 The firm shall have representatives in all sea basins to ensure possible service provision in all ports of Russia, processing bulk cargoes.

8.3.15.4 Personnel.

8.3.15.4.1 The firm shall have a sufficient number of technical, managing and attending personnel capable of providing up-to-date expertise of safe carriage of bulk cargoes by sea including those specialized in the following areas:

- .1 cargo carriage by sea;
- .2 review of physical and chemical properties of bulk cargoes;
- .3 the ship theory and arrangements.

8.3.15.4.2 The firm personnel involved in development of Declarations of the Transportation Characteristics and Conditions for the Safe Shipment of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading as well as in development and implementation of the procedures for sampling, laboratory testing and water content monitoring shall have:

- .1 higher education and field-specific continuing professional education corresponding to the area of recognition;
- .2 appropriate skills and competence with regard to the expertise of safe bulk cargo carriage by sea and monitoring of safety precautions during the cargo carriage by sea;
- .3 confirmed work experience in expertise of safe bulk cargo carriage by sea and development of Declarations on Transportation Characteristics and Conditions for the Safe Carriage of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading not less than 3 years.

8.3.15.4.3 The firm shall have at least five employees involved in full-time activities complying with 8.3.15.4.2.

8.3.15.4.4 Employees not complying with 8.3.15.4.2 may be involved in activities, provided that they perform these activities under supervision of the employees complying with these requirements.

8.3.15.4.5 The firm shall submit the following documents confirming fulfilment of the established requirements:

- .1 employment agreements (or their copies);
- .2 civil law agreements (or their copies);
- .3 certificates on higher education, secondary vocational education or continuing professional education (or their copies);
- .4 employment record books or their copies.

8.3.15.5 Measurement assurance.

The firm shall incorporate a testing laboratory accredited by the Federal Accreditation Service complying with 9.3.9.

8.3.15.6 Files of the firm documents.

8.3.15.6.1 The firm shall develop and keep its own register and information files of national and international rules and regulations applicable to the assessment of acceptability of safe cargo shipments including cargo handling operations in ports.

8.3.15.6.2 The firm shall have valid normative and technical documents required for performance of activities in the expertise of safe bulk cargo carriage by sea including the following:

- .1 national and international normative documents regulating carriage of bulk cargoes by sea;
- .2 technical regulations, interstate, state and industry standards, technical specifications, safety data sheets for materials to be declared and certified;

.3 international and national standards regulating sampling, sample preparation and laboratory tests of materials to be declared and certified.

8.3.15.6.3 The firm shall keep, store for a period of 10 years and submit to the Register the following records both in Russian and English:

.1 list of the personnel authorized to perform bulk cargo sampling with the specimen signatures;

.2 training record books for the personnel involved in sampling and sample preparation;

.3 reports on internal review to ensure that the procedures for sampling and sample preparation are applied correctly;

.4 record books of spot samples and forms where the traceability of the subsample and representative sample is ensured;

.5 record books for maintenance, calibration and testing of sampling and sample preparation equipment;

.6 reports on deviations from the approved sampling and sample preparation procedures and any modification to the procedures.

8.3.15.7 Quality System.

8.3.15.7.1 The firm shall develop, implement and maintain as well as certify the Quality System for compliance with the effective version of ISO 9001 by the certification authority accredited in compliance with the effective version of ISO/IEC 17021 or its national equivalent.

8.3.15.7.2 The firm shall develop and implement the procedures prescribing the following:

.1 development of Declaration on Transportation Characteristics and Conditions for the Safe Carriage of Bulk Cargoes by Sea and Certificates of Cargo Characteristics at the Time of Loading with regard to international and national normative documents as well as the Register procedures;

.2 development and implementation of procedures for sampling, laboratory testing and water content monitoring as per International Maritime Solid Bulk Cargoes (IMSBC Code), IMO resolution MSC. 1/Circ. 1454;

.3 sampling, sample recording and preparation of bulk cargo samples. The procedures shall be approved by the Register, comply with the effective edition of the IMSBC Code and provide for liability of a person, involved in sampling and sample preparation, for compliance with applicable procedures and liability of the head of the firm for fulfilment of the sampling and sample preparation procedures by the personnel and assignment of only qualified personnel for the sampling. The sampling documents (reports, certificates) shall be signed by a person having directly performed the sampling.

The sampling procedure shall provide as follows:

if sampling takes place in each stack, the stack action plan shall be issued and stored (storage may be allowed in electronic form, eliminating the loss and misinterpretation of information), indicating the following:

stack action plan identification number;

ship's name with the lot being loaded;

stack location;

cargo identification (mark, grade);

quantity of cargo in stack;
sampler's full name;
date and time of the commence and completion of sampling;
the required number and mass of point sampling;
locations (in stack) where the point sampling is performed;
sample packaging technique, seal No. (during sealing), or another label identification;
sampler's full name;

period of storage of stack action plans— a minimum of one year. The plans shall be kept at the Company division directly performing the sampling, the copies shall be made available at the Company's office.

Maintenance of sampling record books. The sampling record books shall include the following information, but may not be limited to:

terminal attending time;
number and mass of selected point sampling;
performance location of sample division;
mass of integrated sample;
stack action plan number;
seal No. or sample label No.;

The storage period of sampling record books is a minimum of 3 years. The record books shall be kept at the Company division having directly performed the sampling, the copies shall be made available at the Company's office.

While sampling outside of the laboratory, the shipment/transport document (contracts, delivery notes, waybills) for transportation of samples shall be stored for at least 1 year.

Photographic evidence (unless prohibited by port regulations) of sampling with automatic indication of photographing and geotagging date and time: Photo of the filled-out sampling action plan contrasted with the stack, from where the sampling shall be performed, stack location with reference to landmarks, a general view of the stack, selected samples.

.4 liability of the firm management and personnel for failure to comply with international and national documents and the Register procedures when carrying out the activities on the assessment of acceptability of safe cargo shipments;

.5 development and implementation of measures to prevent and settle the conflict of interest;

.6 guarantees of the firm independence from commercial, financial, administrative or other pressures that may affect the quality of the activities performed;

.7 responsibility for impartial decision-making of the firm when performing works/rendering services as well as methods to provide impartiality;

.8 disclosure of information on affiliates of the recognized firm as per antitrust laws of the Russian Federation;

.9 identification of risks related to impartiality during work, elimination and minimization of the specified risks;

.10 assurance of the firm independence from the manufacturers, sellers, executors and purchasers including consumers;

.11 requirements to firm employees regarding the obligation to notify the firm on the previous and actual relations with designers, developers, manufacturers, sellers, product (work/service) operators, or other circumstances, which may result in a potential conflict of interest.

9 RECOGNITION OF TESTING LABORATORIES

9.3 SPECIAL REQUIREMENTS

New para 9.3.9.4 shall be introduced reading as follows:

"**9.3.9.4** The testing laboratory/TL and its personnel shall not be involved in any activities that may impair their independence and impartiality in respect of services rendered. TL and its personnel shall not be under any commercial, financial or other pressure from the cargo manufacturer, purchaser, shipper, owner, user or guide (shipping clerk/forwarder or agent), shipowner and insurer or any representative thereof that may impair their independence and impartiality in respect of services rendered".

A new **para 9.3.12.5** shall be introduced reading as follows:

"**9.3.12.5** The testing laboratory/TL and its personnel shall not be involved in any activities that may impair their independence and impartiality in respect of services rendered. TL and its personnel shall not be under any commercial, financial or other pressure from the cargo manufacturer, purchaser, shipper, owner, user or guide (shipping clerk/forwarder or agent), shipowner and insurer or any representative thereof that may impair their independence and impartiality in respect of services rendered".



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 381-08-1177c

dated

12.12.2018

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

material, product, activities, ship

Implementation:

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Valid till:

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-

replaces / amends / adds Circular Letter No.

**381-08-
1156ц**

dated **02.08.2018**

Number of pages:

1 + 8

Appendix(-ces):

text of amendments to Part I "General Regulations for Technical Supervision"

Director General

K.G. Palnikov

Text of CL:

We hereby inform that based on the proposals received to SRPAA, the amendments given in the Appendix to this Circular Letter shall be introduced into the Rules for Technical Supervision During Construction of Ships and Manufacture of Materials and Products for Ships. The above amendments will be introduced into the Rules at their re-publication.

It is necessary to do the following:

1. Familiarize the surveyors of the RS Branch Offices with the content of the Circular Letter.
2. Apply provisions of the Circular Letter.
3. Clarify the provisions of the Circular Letter to all interested parties in the area of the RS Branch Offices' activity.

List of amended and introduced paras/chapters/sections (to specify in the List of Circular Letters (form 8.3.36)):

Part I: paras 4.5, 7.1.5, Table 8.1.1, paras 8.1.5, 8.3.1.1.8, 8.3.8, 8.3.9 – 8.3.17, 9.3.1.1, Table 11.1.1, paras 11.1.2, 11.1.3, 11.3.4, Section 14, Appendix 1, Appendix 3.

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"Thesis" System No.

18- 307914 dated 20.11.2018

**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS
AND MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2018
ND No. 2-020101-040-E**

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

4 REQUESTS, CONTRACTS AND AGREEMENTS ON TECHNICAL SUPERVISION

Para 4.5. The third paragraph shall be amended to read:

“The Agreement on Survey (CO) is made based on results of survey of the firm (manufacturer) according to Section(s) 10 and/or 16, the approved technical documentation and/or type approval of the material or product (refer to Section 6).”.

7 GENERAL REQUIREMENTS FOR FIRMS

Chapter 7.1 shall be supplemented with **para 7.1.5** reading as follows:

“7.1.5 The terms of the firm documentation review shall comply with those mentioned in 5.10, Part II “Technical Documentation”.”.

8 RECOGNITION OF SERVICE SUPPLIERS

8.1 GENERAL

Table 8.1.1. Code 22007000MK shall be deleted.

Para 8.1.5 shall be supplemented with the second paragraph reading as follows:

“In case an authorization, license, agreement or any document governing relations between the service supplier and equipment manufacturer is required, these documents shall be valid and/or their validity shall be timely endorsed throughout the validity period of the Recognition Certificate (CP). In case of loss of validity of the specified documents, the service supplier shall apply to the Register to amend the Recognition Certificate (CP).”.

Para 8.3.8 shall be deleted. **Paras 8.3.9 – 8.3.17** shall be renumbered 8.3.8 – 8.3.16 accordingly.

8.3 SPECIAL REQUIREMENTS

Para 8.3.1.1.8 shall be amended to read:

“8.3.1.1.8 Details of Category I TM firm recognition.

TM firm recognition and issuance of the Recognition Certificate (CP) (form 7.1.4.2) are conditional on a practical demonstration of thickness measurements on board the ship, other floating facility or fixed offshore platform (FOP) performed under supervision of the RS surveyor, as well as satisfactory reporting being carried out based on the results of thickness measurements.

The Register shall issue a Certificate of Vocational Training (CПП) (form 7.1.34) to the operator/supervisor who has carried out thickness measurements confirming his/her appropriate qualification for carrying out thickness measurements on ships in compliance with the RS normative documents.

An entry on the type of service shall be made in the Annex to the Recognition Certificate (CP) reading as follows: “22001001 – Category I: firms engaged in thickness measurements under supervision of the RS surveyor on any ship types, other floating facilities (including floating docks, mobile offshore drilling units (MODU), floating offshore oil-and-gas production units (FPU)) and fixed offshore platforms (FOP)) regardless of their gross tonnage.”. During survey of recognized TM firms for renewal of the Recognition Certificate (CP), it shall be confirmed that they fully comply with the applicable requirements of the RS normative documents concerning the TM firm recognition, and that the residual thickness measurements during the period of validity of the Recognition Certificate (CP) have been carried out on particular ships, other floating facilities, fixed offshore platforms (FOP) under supervision of the RS surveyor or under supervision of the ACS – IACS member surveyors, whose Recognition Certificates (CP) are also available at the TM firm. It shall be also confirmed that thickness measurement reports have been duly signed and stamped by the RS or ACS – IACS member surveyors. Particular attention shall be paid to the relevance of the list of the TM firm operators/supervisors and to the availability of the necessary documents confirming the NDT personnel qualification.”.

9 RECOGNITION OF TESTING LABORATORIES

9.3 SPECIAL REQUIREMENTS

Para 9.3.1.1 shall be amended to read:

“**9.3.1.1** Non-destructive testing (NDT) and quality assessment shall be performed by the specialists who have passed the appropriate training, have the proper qualification and practical experience in a particular NDT method which shall be documented.

Assessment of the qualification level and certification of personnel involved in NDT shall be performed in accordance with the requirements of the national standards (GOST R ISO 9712) unified with ISO 9712, as well as other requirements recognized by the Register.

Bodies operating certification of persons in NDT shall comply with the requirements of the international standard ISO/IEC 17024.”.

11 AUDITS OF FIRMS

11.1 GENERAL

Table 11.1.1. Code 22018000 “Design” shall be deleted.

After code 22014004, **code 22014005** "Repair of items of technical supervision with application of composite and polymeric materials" shall be introduced.

Para 11.1.2. After code 22024000, code **22014005** shall be introduced.

Para 11.1.3 shall be deleted. **Paras 11.1.4** and **11.1.5** shall be renumbered **11.1.3** and **11.1.4** accordingly.

11.3 SPECIAL REQUIREMENTS

Chapter shall be supplemented with **para 11.3.4** reading as follows:

"11.3.4 Special requirements for the firms that perform activity "Repair of items of technical supervision with application of composite and polymeric materials" (code 22014005).

11.3.4.1 Personnel.

11.3.4.1.1 Personnel of the firm involved in repair with application of composite and polymeric materials shall have sufficient documented experience to perform repair works with application of such materials, as well as qualification documents confirming possible repair of the items of technical supervision (hull structures, shipboard equipment, products, etc.) with application of composite and polymeric materials.

11.3.4.2 Technique.

11.3.4.2.1 The firm shall have the technique necessary for performance of the activities related to repair of the items of technical supervision with application of composite and polymeric materials, including equipment and instruments to perform the following production operations:

- .1 stripping and grinding of the surfaces under repair;
- .2 preparation of polymeric and concrete compositions;
- .3 application of detergent and oxidizing compounds, paint and polymeric materials.

11.3.4.3 Measurement assurance.

11.3.4.3.1 The firm shall have and apply the necessary measurement assurance, including:

- .1 ambient temperature and humidity, dew point meters;
- .2 scales for weighing components of polymeric compositions;
- .3 viscosity gauges of liquid polymeric compositions;
- .4 wet film coating thickness gauges;
- .5 dry film coating thickness gauges.

11.3.4.4 Files of the firm documents.

11.3.4.4.1 The firm shall have the valid normative and technical documents necessary to perform activities related to repair with application of composite and polymeric materials, agreed with RS, including type production processes and specifications for the applied polymeric materials.

11.3.4.5 Checking and control.

11.3.4.5.1 The firm shall perform incoming and functional inspection, provide work acceptance conditions according to the requirements of the type production processes approved by RS and confirmed by the following documents:

- .1** brief process manuals for specific repair items agreed with RS;
- .2** quality assurance certificates (passports) for lots of applied polymeric materials from the firms (manufacturers) having the Register/ACS Type Approval Certificate (CTO) or certificate of other competent organization;
- .3** inspection report on compliance of the repair performed with the operating procedure for repair of hull structures or machinery components;
- .4** tightness test results of the repaired hull structures (if required).".

14 TECHNICAL SUPERVISION ON BEHALF OF THE REGISTER

Section shall be amended to read:

"14 TECHNICAL SUPERVISION ON BEHALF OF THE REGISTER

14.1 The Register can authorize ACS to carry out technical supervision on its behalf.

14.2 Technical supervision on behalf of the Register is performed on the basis of the agreement on mutual substitution and under a particular authorization of the Register or an agreement made between the Register and ACS.

14.3 Where an authorization is given by the Register: items and scope of technical supervision, procedure of the technical documentation approval, documents to be issued shall be specified. Besides, the procedure of payment for technical supervision services can also be indicated.

14.4 Unless provided otherwise, certificates and other documents issued by ACS in charge of technical supervision on behalf of the Register shall have the following notice: "Under authorization of the Register, No. _____ of _____ 20__".

14.5 Unless expressly provided otherwise, technical supervision is performed according to the procedures used by ACS.

14.6 The authorizations for technical supervision are issued by RHO.

14.7 The Register reserves the right to cancel the authorization for technical supervision issued."

ANNEX 1. NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

Codes 01010000, 01020000 and 01030000. In columns 3 and 5 the symbol "—" shall be introduced.

Code 03020005. In column 5 the symbol "—" shall be introduced.

Codes 03050000, 03050001 and 03050002. In column 5 the symbol "—" shall be introduced.

Codes 03060300 and 03060400. In column 5 the abbreviation “C3” shall be replaced by “CTO”.

Codes 03060500, 03060801 and 03070200. In column 5 the symbol “–” shall be introduced.

Code 06010300MK. In column 5 the abbreviation “CTPK” shall be replaced by “W”.

Code 06060100MK shall be deleted.

Codes 08030210 and 08030220 shall be amended to read:

08030210	class 3 pipes valves <i>DN > 100 mm</i>	P	-	CTO	-	-	-	-
08030220	class 3 pipes valves <i>DN ≤ 100 mm</i>	P	-	CTO	-	-	-	-

Code 08030600. In column 5 the abbreviation “C3” shall be replaced by “CTO”.

Code 08040000. In column 5 the abbreviation “C3” shall be replaced by “W”.

Code 08120000MK. In column 5 the abbreviation “CTO” shall be replaced by “W¹⁰”.

The Nomenclature shall be supplemented with Footnote 10 reading as follows:
“¹⁰ The Asbestos Free Declaration shall be submitted.”.

Code 09017001MK shall be amended to read:

09017001MK	Exhaust gas cleaning system to reduce NO _x emission recognized as a component of marine diesel engine	P	-	W	-	P	-	-
-------------------	---	---	---	---	---	---	---	---

After code 09017001MK, **code 09017002MK** shall be introduced reading as follows:

09017002MK	NO _x exhaust gas monitoring system (NO _x Technical Code)	P	CTO	C3	---	P	P	P
-------------------	---	---	-----	----	-----	---	---	---

Code 09080200 shall be amended to read:

09080200	internal combustion engine blowers	P	CTO*	C3	-	P	P	P
-----------------	---------------------------------------	---	------	----	---	---	---	---

Code 09080202. In column 4 the symbol “–” shall be replaced by “CTO”.

Code 09090500 shall be amended to read:

09090500	blowers:							
-----------------	----------	--	--	--	--	--	--	--

Codes 11020301 and 11020302 shall be amended to read:

11020301	power 50 kVA and over	P	CTO	C	-	-	-	-
11020302	power less than 50 kVA	P	CTO	CTO	-	-	-	-

Codes 11030100 and 11030101 shall be amended to read:

11030100	power transformers with power 100 kVA and over	P	CTO	C	-	-	-	-
11030101	lighting transformers with power less than 100 kVA	P	CTO	C	-	-	-	-

After code 11030101, **codes 11030110 and 11030111** shall be introduced reading as follows:

11030110	power transformers with power 100 kVA and over	P	CTO	CTO	-	-	-	-
11030111	lighting transformers with power less than 100 kVA	P	CTO	CTO	-	-	-	-

Code 11050102 shall be amended to read:

11050102	electric motors with power output up to 100 kW	P	CTO	CTO	-	-	-	-
-----------------	--	---	-----	-----	---	---	---	---

Code 11050103 shall be deleted.

Code 11050205 shall be amended to read:

11050205	soft starters rated at 100 kW and more	P	CTO	C3	-	-	-	-
-----------------	--	---	-----	----	---	---	---	---

Code 11050207 shall be amended to read:

11050207	soft starters rated up to 100 kW	P	CTO	CTO	-	-	-	-
-----------------	----------------------------------	---	-----	-----	---	---	---	---

Codes 11100200 and 11100201. In column 5 the abbreviation “C3” shall be replaced by “CTO”.

After code 11130105, **codes 11130106, 11130107, 11130108 and 11130109** shall be introduced reading as follows:

11130106	Conductors and busbars uninsulated for power supply circuits of 1000 V and less	P	CTO	C3	-	-	-	-
-----------------	---	---	-----	----	---	---	---	---

11130107	Conductors and busbars insulated for power supply circuits of 1000 V and less	P	СТО	C3	-	-	-	-
11130108	Conductors and busbars uninsulated for power supply circuits of more than 1000 V	P	СТО	C3	-	-	-	-
11130109	Conductors and busbars insulated for power supply circuits of more than 1000 V	P	СТО	C3	-	-	-	-

Code 13110500 shall be amended to read:

13110500	clad steel	P	СПИ	C3	K	-	-	-
-----------------	------------	---	-----	----	---	---	---	---

Codes 13160100, 13160200, 13160300 and 13160400 shall be amended to read:

13160100	ingots	P	СПИ	C3	K	-	-	-
13160200	blums	P	СПИ	C3	K	-	-	-
13160300	slabs	P	СПИ	C3	K	-	-	-
13160400	billets	P	СПИ	C3	K	-	-	-

Code 13130504 shall be amended to read:

13130504	forgings for connecting rods, rods ($D_{cyl} > 400$ mm), crossheads of internal combustion engines of power output 55 kW and over	P	СПИ	C3 ⁸	K	-	-	-
-----------------	--	---	-----	-----------------	---	---	---	---

Code 13140504 shall be amended to read:

13140504	castings for connecting rods, rods ($D_{cyl} > 400$ mm), crossheads of internal combustion engines of power output 55 kW and over	P	СПИ	C3 ⁸	K	-	-	-
-----------------	--	---	-----	-----------------	---	---	---	---

Codes 13130502 and 13140502. In column 5 the abbreviation “C3” shall be replaced by “C3⁸”.

Code 13600000. In column 5 the abbreviation “C3” shall be replaced by “СТО”.

Codes 13810000, 13820000, 13830000, 13840000 and 13850000 shall be amended to read:

13800000	Stainless steel:							
-----------------	-------------------------	--	--	--	--	--	--	--

13810000	rolled plates and bars	P	СПИ	C3	K	-	-	-
13820000	pipes	P	СПИ	C3	K		-	-
13830000	forgings	P	СПИ	C3	K		-	-
13840000	castings	P	СПИ	C3	K		-	-
13850000	semi-finished products	-	СПИ	C3	-		-	-

Code 14040200MK. In column 5 the symbol “C” shall be replaced by “CTO”.

Codes 14040201MK, 14040202MK, 14040203MK, 14040204MK and 14040300MK.
In column 5 the abbreviation “C3” shall be replaced by “—”.

After code 19170100MK, **code 19170101MK** shall be introduced reading as follows:

19170101MK	SO _x exhaust gas monitoring system (IMO resolution MEPC.259(68))	P	CTO	C3	—	P	P	P
-------------------	---	---	-----	----	---	---	---	---

After code 19220000MK, **code 19220001MK** shall be introduced reading as follows:

19220001MK	Ballast water management system (IMO resolution MEPC.279(70))	P	COTO + CTO	C3	—	P	P	P
-------------------	---	---	------------	----	---	---	---	---

APPENDIX 3. PROCEDURE FOR TECHNICAL SUPERVISION DURING MANUFACTURE OF RADIO AND NAVIGATIONAL EQUIPMENT

Appendix 1. NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

Code 04070000. In column 3 figure “2” shall be replaced by “1”.

Code 04080000 shall be deleted.



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 322-04-1182c

dated 17.01.2019

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

ships and offshore installations under construction

Implementation:

from the date of publication

Valid till:

Validity period extended till:

Cancels / amends / adds Circular Letter No.

dated

Number of pages: 1 + 1

Appendix(ces):

text of amendments to Part I "General Regulations for Technical Supervision"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships shall be amended as regards the procedure of issuing the RS documents to a new constructed ship as specified in the Appendix to the Circular Letter.

It is necessary to do the following:

1. Bring the content of the Circular Letter to the notice of the RS surveyors, interested organizations and persons in the area of the RS Branch Offices' activity.
2. Apply provisions of the Circular Letter during surveys.

List of ND amended and introduced paras/chapters/sections (to specify in the List of Circular Letters (form 8.3.36)):

Part I: paras 13.10, 13.12

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**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS
AND MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS
ND No. 2-020101-040-E**

**PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION
13 TECHNICAL SUPERVISION AT THE SHIPYARD DURING CONSTRUCTION
OF SHIPS**

Para 13.10 shall be amended to read:

"**13.10** Satisfactory results of surveys performed under the List, no violation of the RS requirements upon results of the patrols (periodical inspections), mooring and sea trials shall be the basis for drawing up the report(acts) on survey of the ship, on which basis the ship's documents are drawn up by the Register. "

Para 13.12 shall be deleted.



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 328-03-1187c

dated 25.01.2019

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

liquefied gas fuel tanks

Implementation:

from the date of publication

Valid till:

Validity period extended till:

Cancels / amends / adds Circular Letter No.

dated

Number of pages: 1 + 1

Appendix(ces):

text of amendments to Part I "General Regulations for Technical Supervision"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships shall be amended as specified in the Appendix to the Circular Letter. The amendments will be introduced into the Rules at their re-publication.

It is necessary to do the following:

Bring the content of the Circular Letter to the notice of the RS surveyors, interested organizations and persons in the area of the RS Branch Offices' activity.

List of ND amended and introduced paras/chapters/sections (to specify in the List of Circular Letters (form 8.3.36)):

Part I: Appendix 1

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"Thesis" System No. 13553 of 22.01.2019

Appendix
to Circular Letter
No. 328-03-1187c
of 25.01.2019

**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS
AND MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2018
ND No. 2-020101-040-E**

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

**ANNEX 1. NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL
SUPERVISION**

Code 0 10050100. In column 4 the abbreviation "СТО" shall be replaced by "СПИ":

10050100	liquefied gas fuel tanks	Р	СПИ	С	К	Р	Р	Р
-----------------	--------------------------	---	-----	---	---	---	---	---



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 381-26-1189c

dated 04.02.2019

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

material, product, activities, ship

Implementation:
from the date of publication

Valid till:
01.07.2019

Validity period extended till: -
-

~~Cancels~~ / Amends / ~~Supplements~~ Circular Letter No.

**381-08-
1143c**

dated **20.06.2018**

Number of pages: 1+4

Appendix(-ces):

text of amendments to Part I "General Regulations for Technical Supervision"

Director General
Konstantin G. Palnikov

Text of CL:

We hereby inform that based on the proposals received to SRPAA RS ND, the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships shall be amended as specified in the Appendix to the Circular Letter. The amendments will be introduced into the Rules at their re-publication.

It is necessary to do the following:

1. Familiarize the surveyors of the RS Branch Offices with the content of the Circular Letter.
2. Apply provisions of the Circular Letter.
3. Clarify the content of the Circular Letter to all interested parties in the area of the RS Branch Offices' activity.

List of amended and introduced paras/chapters/sections (to specify in the List of Circular Letters (form 8.3.36)):

Part I: paras 6.5.2, 10.2.5; Appendix 1;

Part VI: paras 1.6.3, 5.14.7, Table 17.3.1.1, paras 17.3.1.9, 17.3.15.1, 17.3.16 – 17.3.20

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"Thesis" System No.

19-14698 dated 23.01.2019

**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND
MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2018
ND No. 2-020101-040-E**

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

**6 APPROVAL OF TYPE MATERIALS, PRODUCTS, PRODUCTION PROCESSES
AND SOFTWARE**

Para 6.5.2 shall be amended to read:

“6.5.2 After the expiry of validity, the Type Approval Certificate (CTO) is renewed on request of the manufacturer. Type Approval Certificate may be renewed based on documentation review without inspections and tests, provided that:

- .1** the request shall be submitted 2 months prior to the Type Approval Certificate expiry;
- .2** the manufacturer confirms constancy of design, software and earlier specified technical characteristics of material or product, or that changes in design do not result in the change of work process, loads on the product components, resource or other significant parameters of the product operation;
- .3** unless otherwise stated in applicable sections of the Rules.

The Register reserves the right to require the applicable inspections and tests to be carried out.”

10 RECOGNITION OF MANUFACTURERS

Chapter 10.2 shall be supplemented by **para 10.2.5** reading as follows:

“10.2.5 Quality management system.

10.2.5.1 The firm shall have the documented quality management system covering at least the following:

- .1** the Code of Ethics to conduct the relevant activity;
- .2** maintenance of equipment;
- .3** measurement assurance, checking (calibration) of measuring equipment;
- .4** training programmes for operators/technicians/inspectors;
- .5** supervision and verification to ensure compliance with operational procedures;

- .6 recording and reporting of information;
- .7 quality management of subsidiaries, agents and subcontractors;
- .8 job preparation;
- .9 corrective and preventive actions related to complaints;
- .10 periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents.”

APPENDIX 1. NOMENCLATURE OF ITEMS OF THE REGISTER TECHNICAL SUPERVISION

Codes 09010000, 09010016, 09080200, 09080201, 09080202. In column 4 the superscript “*” shall be deleted.

Code 19090000MK shall be amended to read:

19090000MK	Sewage treatment plants (IMO resolution MEPC.227(64))	P	CTO, COTO	C3	-	P	P	P
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Code 19170100MK shall be amended to read:

19170100MK	Exhaust gas cleaning (EGC) unit to reduce SO _x emission (IMO resolution MEPC.259(68), survey under Scheme A)	P	CTO, SECC	C3	-	P	P	P
-------------------	---	---	-----------	----	---	---	---	---

New code 19170102MK shall be introduced reading as follows:

19170102MK	Exhaust gas cleaning (EGC) unit to reduce SO _x emission (IMO resolution MEPC.259(68), survey under Scheme B)	P	-	W	-	P	P	P
-------------------	---	---	---	---	---	---	---	---

PART IV. TECHNICAL SUPERVISION DURING MANUFACTURE OF PRODUCTS

1 GENERAL

Para 1.6.3 shall be amended to read:

“**1.6.3** If the mandatory drawing up of Type Approval Certificate is specified in column 4 of the

RS Nomenclature, the technical supervision of the prototype of such product is carried out by the RHO or RS Branch Office.”

5 MACHINERY

New para 5.14.7 shall be introduced:

“5.14.7 When NO_x reducing devices are used as a component of marine diesel engine and/or NO_x exhaust gas monitoring system, the technical supervision of systems shall be carried out in accordance with Section 17.”

17 EQUIPMENT FOR THE PREVENTION OF POLLUTION FROM SHIPS

Table 17.3.1.1. In column **“Items of technical supervision”** the title of **item 5.2** shall be amended to read:

“NO_x reducing devices as a component of marine diesel engine”;

new item 5.3 shall be introduced reading as follows:

“NO_x exhaust gas monitoring system (NO_x Technical Code)”,

in the next columns the sign “+” shall be entered except for columns “Check of welding operations” and “Hydraulic tests”;

new item 5.4 shall be introduced reading as follows:

“Continuous SO_x emission monitoring system (IMO resolution MEPC.259(68)),

in the next columns the sign “+” shall be entered, except for columns “Check of welding operations” and “Hydraulic tests”;

existing item 5.3 shall be renumbered as item 5.5.

In **para 17.3.1.9** the reference to 5.3 shall be replaced by the reference to 5.3 — 5.5.

In **para 17.3.15.1** the words “(refer to IMO resolution MEPC.259(68))” shall be replaced by the words:

“(refer to IMO resolutions MEPC.259(68), MEPC.291(71), as applicable)”.

New para 17.3.16 shall be introduced reading as follows:

“17.3.16 NO_x exhaust gas monitoring system (NO_x Technical Code).

17.3.16.1 Prior to commencement of technical supervision, the following documentation shall be submitted for approval:

.1 installation, operation and maintenance manual which includes at least the following:

functional description specifying the technical parameters, used measuring instruments and sensors, operating conditions, recommendations for installation and connection to ship systems, failure mode description, calibration requirements, recommendations for maintenance, functional process diagram of sampling and measurement with indication of all instruments and control devices and units;

.2 test program.

17.3.16.2 During survey of the system, the provisions of NO_x Technical Code shall be followed, the test program shall include:

.1 test of enclosure protection according to 10.5.5;

.2 check for functioning and proper performance within the scope given in 12.4.1.2;

.3 test for deviation of power supply from rated values according to 3.3 of Appendix 1 to Section 12;

.4 measurement of insulation resistance of automation equipment being a part of a system according to 3.1 of Appendix 1 to Section 12;

.5 check of resistance to external electromagnetic interference within the scope given in 3.4.2 of Appendix 1 to Section 12.”

New para 17.3.17 shall be introduced reading as follows:

«17.3.17 Continuous SO_x emission monitoring system (IMO resolution MEPC.259(68)).

17.3.17.1 Prior to commencement of technical supervision of system, documentation specified in 17.3.16.1 shall be submitted for approval.

17.3.17.2 During the survey of the system, the applicable provisions of IMO resolution MEPC.259(68) shall be followed, the test program shall include checks listed in 17.3.16.2.”

Existing paras 17.3.16 — 17.3.18 shall be renumbered as paras 17.3.18 — 17.3.20 accordingly.



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 381-26-1219c

dated 23.04.2019

Re:

amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships, 2018, ND No. 2-020101-040-E

Item(s) of supervision:

service suppliers

Entry-into-force date:

from the date of publication

~~Valid till:~~

~~Validity period extended till:~~

~~Cancels / amends /~~ adds Circular Letter No. **381-08-1177c**

dated **12.12.2018**

Number of pages:

1 + 3

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part I "General Regulations for Technical Supervision"

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships shall be amended as specified in the Appendix 2 to the Circular Letter. The amendments will be introduced into the Rules at their re-publication.

It is necessary to do the following:

1. Familiarize the surveyors of the RS Branch Offices with the content of the Circular Letter.
2. Apply provisions of the Circular Letter.
3. Clarify the content of the Circular Letter to all interested parties in the area of the RS Branch Offices' activity.

List of the amended and/or introduced paras/chapters/sections:

Part I: Table 8.1.1, paras 8.3.14.1 — 8.3.14.7, 8.3.18

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"Thesis" System No. 19-93878

**Information on amendments introduced by the Circular Letter
(for inclusion in the Revision History to the RS Publication)**

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
1	Part I, Table 8.1.1	The Table has been amended considering IACS Recommendation No. 113	381-26-1219c of 23.04.2019	23.04.2019
2	Part I, paras 8.3.14.1 — 8.3.14.7	New para 8.3.14.1 has been introduced. The requirements of para 8.3.14.5 have been specified. Paras 8.3.14.1 — 8.3.14.7 (existing) have been renumbered 8.3.14.2 — 8.3.14.8, accordingly	381-26-1219c of 23.04.2019	23.04.2019
3	Part I, para 8.3.18	New para 8.3.18 has been introduced considering IACS Recommendation No. 113	381-26-1219c of 23.04.2019	23.04.2019

**RULES FOR TECHNICAL SUPERVISION DURING CONSTRUCTION OF SHIPS AND
MANUFACTURE OF MATERIALS AND PRODUCTS FOR SHIPS, 2018**

ND No. 2-020101-040-E

PART I. GENERAL REGULATIONS FOR TECHNICAL SUPERVISION

8 RECOGNITION OF SERVICE SUPPLIERS

8.1 GENERAL

1 **Table 8.1.1.** After code 22008000MK, new code 22009000 is introduced reading as follows:

"22009000 — Visual and/or sampling checks, development of hazardous material inventories".

8.3 SPECIAL REQUIREMENTS

2 **New para 8.3.14.1** is introduced reading as follows:

"**8.3.14.1** Recognition Certificate (CП) is issued for a period of up to 5 years and is subject to annual endorsement.".

3 **Paras 8.3.14.1 — 8.3.14.7** (existing) have been renumbered **8.3.14.2 — 8.3.14.8**, accordingly.

4 **Para 8.3.14.5** (existing) is replaced by the following text:

8.3.14.6 Measurement assurance.

The firm shall incorporate a testing laboratory complying with 9.3.9 and accredited by the Federal Accreditation Service (RusAccreditation) or the International Laboratory Accreditation Cooperation (ILAC). The scope of laboratory accreditation shall cover transportable moisture limit tests (flow moisture tests).".

5 **New para 8.3.18** is introduced reading as follows:

"8.3.18 Requirements for firms engaged in visual and/or sampling checks, development of hazardous material inventories (code 22009000).

8.3.18.1 Extent of engagement.

Visual and/or sampling checks for hazardous materials onboard ships as specified in the "2015 Guidelines for the Development of the Inventory of Hazardous Materials" (IMO resolution MEPC.269(68)) and Appendix 1 and 2 of the Annex to the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009, in the Regulation (EU) No 1257/2013 of the European Parliament and the Council of 20 November 2013 on ship recycling and amending Regulation (EC) No 1013/2006 and Directive 2009/16/EC, as well as evaluation of checks results and development of hazardous material inventories for a specific ship at the shipowner's request. The above-mentioned documents can advise on quantities and locations of samples, taking of samples in a safe manner as well as prepare reports on the quantities, locations and estimates of these onboard materials.

8.3.18.2 Personnel qualifications.

Visual and/or sampling checks onboard ships shall be executed by persons with professional knowledge of hazardous materials licensed as required and, who are trained and equipped experts, in particular with regards to the evaluation and sampling of hazardous materials and materials containing hazardous materials.

Personnel carrying out visual and/or sampling checks of relevant hazardous materials onboard ships, developing hazardous material inventories shall have professional knowledge of ship structures, equipment, machinery and arrangements, as well as hazardous materials and materials used for ship structures and equipment, taking of samples and handling of such materials.

8.3.18.3 Sample analysis shall be carried out in appropriate laboratories accredited or certified according to recognized standards and competent to perform testing of samples by specific test methods provided in Appendix 9 of IMO resolution MEPC.269(68). Specific equipment used on-board the ship for the purpose of sampling checks shall be duly calibrated and/or certified according to recognized standards.

8.3.18.4 Work shall be executed in accordance with documented work and safety procedures that contain at least the following:

- information on survey preparation;
- safety procedures relevant to the hazards;
- selection and identification of visual and/or sampling check locations;
- material preparation;
- sample removal;
- reinstatement of safe conditions for the material once the sample is taken;
- sample storage, identification and transport requirements; and
- report preparation and content.

8.3.18.5 Reports shall be based on the 2015 Guidelines for the Development of the Inventory of Hazardous Materials (IMO resolution MEPC.269(68)).

8.3.18.6 Each job on visual and/or sampling checks shall be documented by including the signatures of the operator or the operator's designated responsible person in the final report."

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и изготовлением материалов и изделий для судов**

Том 1

Часть I

Общие положения по техническому наблюдению

Часть II

Техническая документация

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Part II

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