RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER **No. 312-10-1898c** dated 17.02.2023

Re:

amendments to the Rules for the Classification and Construction of Sea-Going Ships, 2023, ND No. 2-020101-174-E

Item(s) of supervision:

ships under construction and technical documentation

Entry-into-force date:
01.03.2023

~~Cancels / amends / adds Circular Letter No.~~ ~~dated~~

Number of pages: 1 + 78

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to Part I "Classification"

Acting Director General Sergey A. Kulikov

Text of CL:

We hereby inform that the Rules for the Classification and Construction of Sea-Going Ships shall be amended as specified in the Appendices 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 the provisions of the Circular Letter during review and approval of the technical documentation on ships (or equipment installed on board the ships, or products/machinery installed on board the ships) contracted for construction of conversion on or after 01.03.2023, in the absence of a contract, during review and approval of the technical documentation on ships requested for review on or after 01.03.2023.
3. Apply the provisions of the Circular Letter during review of the technical documentation on ships under construction and in service upon request of the interested parties.

List of the amended and/or introduced paras/chapters/sections:

Part I: paras 3.1.2, 3.1.5, 3.1.9, Chapters 3.2 — 3.5 and para 4.3.1.1

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Appendix 1 to Circular Letter
No. 312-10-1898c dated 17.02.2023

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	Para 3.1.2	Para has been amended regarding the scope of documentation to be submitted	312-10-1898c of 17.02.2023	01.03.2023
2	Para 3.1.5	Para has been amended regarding results of technical documentation review	312-10-1898c of 17.02.2023	01.03.2023
3	Para 3.1.9	New para containing requirements for operational documentation has been introduced	312-10-1898c of 17.02.2023	01.03.2023
4	Chapters 3.2 — 3.5	Chapter 3.2 has been completely revised and presented in a tabular form. Existing Chapters 3.2, 3.3 and 3.4 have been deleted. New Chapter 3.3 containing requirements for the scope of design documentation on ship's equipment has been introduced. Existing Chapter 3.5 has been renumbered 3.4	312-10-1898c of 17.02.2023	01.03.2023
5	Para 4.3.1.1	Para has been amended regarding results of technical documentation review	312-10-1898c of 17.02.2023	01.03.2023

Appendix 2 to Circular Letter
No. 312-10-1898c dated 17.02.2023

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS, 2022,

ND No. 2-020101-152-E

PART I. CLASSIFICATION

3 TECHNICAL DOCUMENTATION

1 **Para 3.1.2** is replaced by the following text:

"**3.1.2** Prior to the commencement of a ship construction, technical documentation proving that all requirements of the Register applicable to the ship concerned are complied with shall be submitted to the Register for review. The documentation for review shall be submitted to the Register in electronic form in PDF format, providing its autonomous timeless storage and stamping with the results of documentation review.

Basically two practical alternatives of documentation submission and approval are allowed:

.1 submission of plan approval documentation at least within the scope specified in column "PAD" in tables of Chapter 3.2, taking into account the peculiarities and type of the ship without further approval of detailed design documentation;

.2 submission of technical design documentation at least within the scope specified in column "TD" in tables of Chapter 3.2, taking into account the peculiarities and type of the ship with further approval of detailed design documentation (refer to column "DD" of the above-mentioned tables). Chapter 3.2 covers only the minimum scope of detailed design documentation to be submitted to the Register. If necessary, the scope of detailed design documentation may be revised by agreement with the Register for each project individually depending on the extent and nature of changes in relation to the technical design.

The technical design documentation approved by the Register does not constitute grounds for assignment of class to the ship. This documentation is reviewed by the Register exclusively as the basis for further detailed design.

Note: The additional technical documentation required by Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" shall also be submitted in the set of technical documentation depending on the distinguishing mark or descriptive notation in the class notation of the ship, and taking into account the requirements of 3.1.9 of this Part.".

2 **Para 3.1.5** is replaced by the following text:

"**3.1.5** Depending on the type of documentation, the results of the technical documentation review by the Register are finalized by appropriate stamping of the documents in accordance with 8.2 of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.

Information on stamps for different types of documentation is given in 3.2 and 3.3 of this Part.".

3 **New para 3.1.9** is introduced reading as follows:

"**3.1.9** The technical documentation specified in Section 3 of this Part does not cover operational documentation which is necessary for assignment of class to the ship. With regard to the requirements for operational documentation, the requirements of 4.6 and Appendix 1 of Part II "Technical documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships shall be met.".

4 **Chapter 3.2** is replaced by the following text:

"**3.2 PLAN APPROVAL DOCUMENTATION**

Letter identification and abbreviations:
A — Approved;
AG — Agreed;
FI — For information;
TD — Technical design;
PAD — Plan approval documentation;
DD — Detailed (design) documentation.

3.2.1 Ship's general documentation.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Ship specification	FI	●		●	
.2	General arrangement plan	FI/A	●		●	If all necessary information concerning escape routes is stated in the plan, the general arrangement plan shall be approved
.3	List of deviations from the RS rules (with references to the relevant RS letters of their approval, refer to 1.3.4 of the General Regulations for the Classification and Other Activity, if any)	AG	●	●	●	The possibility of deviations shall be agreed with RHO and approved by the RS Director General
.4	Engineering analysis of the alternative design and arrangements — if any	AG	●		●	
.5	Evacuation analysis for passenger ships carrying more than 36 passengers, special purpose ships carrying more than 240 persons and ro-ro passenger ships confirming compliance with regulation II-2/13.3.2.7 of SOLAS-74, as amended, based on the guidelines in IMO circular MSC.1/Circ.1533	AG	●		●	
.6	Engineering analysis of the capability of a ship to return to port in case of an accident in accordance with 2.2.6 and 2.2.7 of Part VI "Fire Protection", considering interpretations of IMO circular MSC.1/Circ.1369 (for passenger ships having length of 120 m and above or having three or more main vertical zones)	AG	●		●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.7	Tonnage calculations in accordance with the International Convention on Tonnage Measurement of Ships, 1969 (for ships of 24 m in length and above) or the Rules for the Tonnage Measurement of Sea-Going Ships (for ships of less than 24 m in length)	AG	●	●	●	
.8	Tonnage calculations in accordance with the Regulations for the Measurement of Tonnage for the Suez Canal and/or the Rules for Measurement of Vessels for the Panama Canal (if necessary, issue of appropriate tonnage certificates)	AG	●	●	●	
.9	Plan showing the location of the IMO ship identification number (IMO number) marking (in compliance with the requirements of regulation XI-1/3 of SOLAS-74 as amended; applicable to all passenger ships of 100 gross tonnage and above and for all cargo ships of 300 gross tonnage and above; ships not covered by this regulation shall comply with the provisions of IMO resolution A.1117(30) as amended)	A		●	●	

3.2.2 Hull documentation.

Documentation specified in 3.2.2.1 — 3.2.2.4 of this Part shall be submitted together with the first portion of the documentation on hull.

All constructional drawings specified in 3.2.2.4 — 3.2.2.7, 3.2.2.9 — 3.2.2.11, 3.2.2.14 — 3.2.2.17, 3.2.2.20 — 3.2.2.22 of this Part, shall indicate the scantlings of the hull members, their material with indication of grades according to Part XIII "Materials", as well as typical sections and details, types and dimensions of fillet welds.

No.	Description of documentation	Stamp	TD	DD	PAD	Remark
.1	Hull members scantlings determination as well as analysis of the longitudinal strength and buckling stability of members (for all specified loading conditions of a ship, including the loading and carriage of bulk cargoes other than grain)	AG	●		●	
.2	Midship section plan and the typical transverse sections (with indication of spacing between the main longitudinal and transverse members, main particulars of the ship and their ratios, class notation of a ship and values of design still water bending moments)	A	●		●	
.3	Constructional profile (with indication of frame spacing, boundaries of the portions of a ship length, position of the watertight bulkheads, pillars, arrangement of superstructures and deckhouses)	A	●		●	
.4	Shell expansion (with indication of the ship hull boundaries, positions and dimensions of openings in shell plating, and for ships strengthened for navigation in ice — the upper and lower edges of the ice belt and corresponding forward and aft draughts (with due regard to trim), arrangement of intermediate frames.	A	●		●	Shell expansion for fiber-reinforced plastic ships shall be submitted if the outer shell plating has different thickness
.5	Deck and platform plans (with indication of design loads, including the loads induced by lift trucks and containers, positions and dimensions of openings, their strengthening, end structures of the side coamings)	A	●		●	
.6	Double bottom plan (the plan shall contain: sea chest sections with indication of pressure in the blow-down system; boundaries of watertight compartments, table of pressure heads. For bulk carriers and ore carriers, an allowable load on the inner bottom plating shall be indicated)	A	●		●	
.7	Drawings of longitudinal and transverse bulkheads, tank wash bulkheads (for tanks, the heights of overflow and air pipes shall be indicated)	A	●		●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remark
.8	Hull typical structural details	A		●	●	Listed typical details shall comply with those shown on structural drawings given in 3.2.2.2 — 3.2.2.7, 3.2.2.9, 3.2.2.10, 3.2.2.14, and 3.2.2.17. The remaining information shall comply with the shipbuilding quality standards for the hull structure during new construction agreed at the kick-off meeting with the shipyard (refer to 2.7 of the Guidelines on Technical Supervision of Ships under Construction) and shall be reviewed by the RS Branch Office for technical supervision during construction
.9	Drawing of after end framing	A	●		●	
.10	Drawing of fore end framing	A	●		●	
.11	Drawing of superstructures and deckhouses	A	●		●	
.12	Drawings of sections and assemblies of superstructures and deckhouses	A		●	●	
.13	Hull blocks plan	AG		●	●	
.14	Drawings of sternframe and stem	A	●	●	●	
.15	Drawings of bulwark	A	●	●	●	
.16	Drawings of engine and boiler casings, coamings, companions and other guards of openings in the ship's hull	A	●	●	●	
.17	Drawings of propeller shaft brackets and bossings as well as fixed nozzles	A	●	●	●	
.18	Drawings of propeller shaft tunnel, recesses, emergency escape trunks	A		●	●	
.19	Drawings of sections and assemblies of the main hull (including decks, transverse and longitudinal bulkheads, sides, bottom, double bottom (with table of positions of manholes and other openings), integral tanks outside double bottom)	A		●		
.20	Drawings of seatings for the main machinery (main engine, main diesel engine) and boilers, including bottom construction (with indication of type and model of the equipment and that the seating complies with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the equipment)	A	●	●	●	At the TD stage, the drawings are submitted if the information on the selected equipment is available

No.	Description of documentation	Stamp	TD	DD	PAD	Remark
.21	Drawings of seatings for equipment (arrangements, machinery with statical load on deck exceeding 50 kN, or resulting statical bending moment on deck exceeding 100 kN m, deck mechanisms with breaking load of a rope or chain exceeding 150 kN or safe working load (SWL) exceeding 30 kN; the drawings shall be provided with indication of type and model of equipment and that the seating complies with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the equipment; the design load and loading scheme; accepted corrosion allowance)	A	●	●	●	At the TD stage, the drawings are submitted if the information on the selected equipment is available. Drawings shall be submitted only if the seatings are manufactured independently of the equipment to be installed on them. If equipment is supplied together with the seating, these drawings are not required to be included in TD
.22	Drawings of seatings for mooring, anchor and towing equipment (the drawings shall be provided with indication that seatings comply with the requirements of the supplier's conditions on the equipment or that no special requirements are placed by the supplier on the seatings)	A	●	●	●	At the TD stage, the drawings are submitted if the information on the selected equipment is available. Drawings shall be submitted only if the seatings are manufactured independently of the equipment to be installed on them. If equipment is supplied together with the seating, these drawings are not required to be included in TD
.23	Plan of weld control	A	●	●	●	
.24	Table of the main hull and superstructure welding (containing the following information: name and thickness of hull structural members to be joined; shape or symbol of edge preparation (types of weld joints); brands and grades of base metal; welding processes; grades of welding consumables)	A	●	●	●	If the information listed herein is stated to the full in the drawings of a ship's hull, then submission of the table of welding is not required. For the TD stage, general technical requirements for welding and choice of welding consumables grades are submitted
.25	Plan of testing the hull	A	●	●	●	It can be merged with plan of subdivision specified in 3.2.5.3 of this Part
.26	Construction Monitoring Plan (for ships with the distinguishing mark **CSR** in the class notation)	AG	●	●	●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remark
.27	Specifications of protective coatings (according to 6.5 of Part XIII "Materials")	A	●	●	●	At the TD stage, the designer specifies general requirements for protective coatings in the specification
.28	Basic parameters of the hull protection by damping from damages when mooring (for ships to be moored at sea to other ships)	A	●	●	●	
.29	Detailed description of the hull construction process, including materials data, methods of forming the structural items, necessary conditions required during hull construction, as well as hull local scantlings and hull girder strength report)	A	●	●	●	Documentation is submitted for fiber-reinforced plastic ships only
.30	Loading Manual (for ships of 65 m in length and above refer to 1.4.9 of Part II "Hull")	AG	●	●	●	For oil tankers having length 150 m and above and bulk carriers having length 90 m and above, the scope of documentation shall consider the provisions of the Common Structural Rules

3.2.3 Documentation on arrangements, equipment and outfit.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	General arrangement plans of openings in hull, superstructures, deckhouses and subdivision bulkheads, including data on coamings height and type of closing appliances	A	●	●	●	
.2	Drawings of essential assemblies and parts of closing appliances of openings in hull, superstructures, deckhouses and subdivision bulkheads	A		●	●	
.3	Strength calculations of bow, side and stern closing appliances in the ship's hull	AG	●		●	
.4	General arrangement plans of machinery and actuators of rudder and steering gear	A	●			
.5	General arrangement plans of rudder and steering gear with indication of essential assemblies and parts	A		●	●	
.6	Strength calculation of essential assemblies and parts of rudder and steering gear	AG	●		●	
.7	Calculation of efficiency of rudder and steering gear	AG	●		●	
.8	General arrangement plan of hatch covers of cargo holds	A	●			
.9	General arrangement plan with essential assemblies and parts of hatch covers of cargo holds	A		●	●	
.10	Strength calculations of hatch covers of cargo holds	AG	●		●	
.11	General arrangement plans of anchor, mooring and towing arrangements	A	●			
.12	General arrangement plans with essential assemblies and parts of anchor, mooring and towing arrangements	A		●	●	
.13	Calculations of anchor, mooring and towing arrangements	AG	●		●	
.14	Drawings of signal masts and rigging	A	●	●	●	
.15	Calculations of signal masts and rigging	AG	●		●	
.16	General arrangement plans of guard rails	A	●			
.17	General arrangement plans with essential assemblies and parts of guard rails	A		●	●	
.18	General arrangement plans of means of access for inspections of cargo and other spaces on oil tankers and bulk carriers and ships carrying liquefied gases in bulk	A	●			
.19	General arrangement plans with essential assemblies and parts of means of access for inspections of spaces in cargo area and other spaces on oil tankers, bulk carriers and ships carrying liquefied gases in bulk	A		●	●	
.20	Means of access manual (for oil tankers and bulk carriers)	A	●		●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.21	General arrangement plan of catwalk on oil tankers and ships carrying liquefied gases in bulk	A	●			
.22	General arrangement plan with essential assemblies and parts of catwalk on oil tankers and ships carrying liquefied gases in bulk	A		●	●	
.23	General arrangement plans of guide members for containers in cargo holds	A	●	●	●	
.24	Calculations of essential assemblies and parts of guide members for containers in cargo holds	AG	●		●	
.25	General arrangement plans and fastening plans of ladders with essential assemblies and parts (including accommodation and pilot ladders, and gangways)	A	●	●	●	
.26	General view of hoisting gear of shipborne barges	A	●	●	●	
.27	Calculation of hoisting gear of shipborne barges	AG	●		●	
.28	Plan of escape routes	A	●		●	If all necessary information concerning escape routes is stated in the general arrangement plan, plan of escape routes may not be submitted. In this case, the general arrangement plan shall be approved
.29	List of emergency outfit	AG	●		●	If required by Flag State Maritime Administration

3.2.4 Documentation on stability.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Lines drawing, coordinate table of lines	AG	●		●	
.2	Corner point coordinate table for compartments and tanks	AG	●		●	
.3	Preliminary calculation of stability containing:	AG	●		●	Information listed in 3.2.4.3.1 — 3.2.4.3.8 may be submitted by separate documents
.3.1	tables of hydrostatic particulars					
.3.2	tables of cross-curves of stability, including drawing of the buoyant hull					
.3.3	mass tables for various loading conditions and cargo handling operations with indication of distribution of cargoes, fuel oil, fresh water and liquid ballast in tanks, as well as data on ship's displacement, centre of gravity and trim					
.3.4	diagrams of windage area of a ship and calculations of heeling moments					
.3.5	calculations of heel caused by crowding of passengers and by turning					
.3.6	calculations of icing, angles of flooding, corrections for free surface effect of liquid cargoes and stores					
.3.7	sketch showing the location of solid ballast with a specification containing information on the weight of each ballast group and the coordinates of the centre of gravity					
.3.8	righting lever curves and results of stability verification in compliance with the requirements of Part IV "Stability"					
.4	Freeboard plan containing: maximum draught of the ship; arrangement of openings and closing appliances, which contribute to the watertight integrity of the ship external boundaries, with an indication of the height of coamings and type of closing appliances (external doors, cargo hatches, service hatches; bow, stern and side doors and ramps; scuttles and windows, scuppers and freeing ports, bottom and side valves of sea water systems, sewage system, etc.; air pipes and ventilation heads, closures of ventilation ducts, engine room skylights, etc.); arrangement plan of means for protection of the crew (bulwark, guard rails, gangways, passageways, etc.)	AG	●	●	●	If all necessary information is stated in the plans and diagrams required by 3.2.3.1, 3.2.3.17, 3.2.9.1.8, 3.2.9.1.10 and 3.2.9.1.13 of this Part, the freeboard plan may not be submitted
.5	Freeboard calculation and drawings of the load line mark	AG	●		●	
.6	Drawing for the ship's hull marking with the load line mark, deck line, lines to be used with the load line mark, mark of assigning Authority etc.	A		●		

3.2.5 Documentation on subdivision.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Documents on probabilistic assessment of subdivision (if required)	AG	●		●	
.2	Damage trim and stability calculations, including righting lever curves	AG	●		●	
.3	Subdivision plan showing all watertight structures and openings with indication of types of closing appliances, as well as arrangements used for equalizing heel and trim of a damaged ship	AG	●		●	
.4	Calculations of sectional areas of cross-flooding fittings and of uprighting time of a ship	AG	●		●	
.5	Documents on installation of flooding detection sensors of water ingress into compartments of passenger ship and bulk carrier, containing:					
.5.1	flooding detection system specification	AG	●	●	●	
.5.2	documents with indication of the flooding detection system location	A	●		●	

3.2.6 Documentation of fire protection.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Documents on structural fire protection: structural fire protection plan, including arrangement of doors and other openings in fire-fighting divisions with indication of categories of spaces in accordance with 2.2.1.3, 2.2.1.5, 2.3.3, 2.4.2, 2.5.3 and 2.6.3 of Part VI "Fire Protection"	A	●		●	
.2	Structural drawings of pipe and duct penetrations and cable transits in fire-fighting divisions	A		●	●	
.3	Documents on structural fire protection: insulation plan, scheme of linings and ceilings, deck coverings plan, schemes or description of facings and other finishing materials	A	●		●	
.4	Structural drawings of insulation, linings and deck coverings	A		●	●	
.5	Documents on structural fire protection: calculations required by 2.1.1.4 and 2.1.1.10 of Part VI "Fire Protection"	AG	●		●	
.6	Diagrams of fire extinguishing systems and a sample extraction smoke detection system	A	●		●	For PAD — with detailed description and other data confirming compliance with the requirements of Part VI "Fire Protection"
.7	Structural drawings of assemblies and equipment of fire extinguishing systems	A		●	●	
.8	Calculations of fire extinguishing systems confirming compliance with the requirement of Part VI "Fire Protection"	AG	●		●	
.9	List of fire-fighting outfit	AG	●		●	
.10	Arrangement plan of fire-fighting outfit	A		●	●	
.11	List of spare parts and tools	AG		●	●	
.12	Electrochemical protection scheme or drawing in oil tankers	A	●	●	●	
.13	Preliminary fire plan	AG	●		●	

3.2.7 Documentation on machinery and boiler plant.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	General arrangement plans of machinery and equipment in the machinery spaces of category A, as well as in the emergency diesel generator spaces (refer to 1.2 of Part VII "Machinery Installations") with indication of escape routes	A	●		●	
.2	Drawings of seatings and attachment fittings of the main machinery, boilers and shaft bearings	A		●	●	
.3	Diagram of remote control of the main machinery	A	●		●	When remote control for the main machinery is supplied as complete delivery with the main engines and/or with steerable propellers, the mentioned diagram and description may be submitted together with the documentation required by Section 12 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
.4	Description of remote control of the main machinery (completed with information on equipment of remote control stations fitted with controls, indicating instruments and alarm devices, means of communication and other devices)	AG	●		●	
.5	Drawings of fuel and oil tanks location	A	●	●	●	
.6	Calculation of power of the main machinery for **Ice2** — **Arc9** ice class ships in compliance with the requirements of 2.1 of Part VII "Machinery Installations" to the minimum value of power delivered to the propeller shafts of the ships	AG	●		●	

3.2.7.7 Documentation on shafting.

The PAD or DD documentation shall contain information on treatment and geometry of working surfaces, heat treatment, tolerances on mating parts, hydraulic tests, non-destructive testing, etc.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	General view of shafting	A	●	●	●	
.2	Drawing of sterntube and parts of sterntube arrangement (bushes, bearings, sealings), drawing of casing protecting the area between the sterntube and propeller boss	A	●	●	●	When propeller is supplied as complete delivery with the propulsion plant, the documentation listed in 3.2.7.7.2 — 3.2.7.7.12 of this Part may be submitted together with the documentation required by Section 6 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
.3	Drawings of shafts (propeller, intermediate and thrust)	A	●	●	●	
.4	Drawings of shaft connections and couplings	A	●	●	●	
.5	Drawings of journal and thrust bearings of shafting and their fastening to the seatings	A	●	●	●	
.6	Strength calculation of shafts and their fastening parts	AG	●		●	
.7	Calculation of the number of shaft supports, their position and loads carried	AG	●		●	
.8	Calculation of fitting of propeller and shafting couplings	AG	●		●	
.9	Torsional vibration calculations in compliance with the requirements of Section 8 of Part VII "Machinery Installations". In some cases, calculation of axial vibration may be required	AG	●		●	
.10	Calculation of parameters of shafting alignment	AG		●	●	
.11	Sterntube bearing and sterntube seal lubrication and cooling diagrams	A	●		●	
.12	Calculation of bending vibration of shafting in compliance with the requirements of Section 5 of Part VII "Machinery Installations"	AG	●		●	

3.2.7.8 Documentation on propeller.

The PAD or DD documentation shall contain information on treatment and geometry of working surfaces, heat treatment, tolerances on mating parts, hydraulic tests, non-destructive testing, etc.

For propellers not covered by the requirements of these Rules, the list of documentation shall be agreed with the Register in each particular case.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	General view of propeller	A	●	●	●	The documentation may be submitted together with the documentation required by Section 7 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
.2	Strength calculation of propeller blade (for detachable-blade propellers and controllable-pitch propellers (CP-propellers), also calculation of fastening of blades to the boss)	AG	●		●	
.3	Drawing of propeller attachment to propeller shaft	A		●	●	
.4	Description of pitch actuating mechanism (PAM) and its control system	AG	●		●	
.5	Diagrams of pitch actuating mechanism (PAM) and its control system	A	●		●	
.6	Drawings of CP-propeller and detachable-blade propeller: blade, boss, cone, as well as items for their securing	A	●	●	●	
.7	Drawing of pitch control unit as assembled	AG		●	●	
.8	Drawings of the main parts of the pitch control unit, including shaft of the pitch control unit, hydraulic cylinders, push-pull rods, pistons, slides, oil distribution boxes, lubricating oil supply tube to hydraulic cylinder in hub	A		●	●	

3.2.7.9 Documentation on active means of the ship's steering (AMSS).

The documentation shall contain information on treatment and geometry of working surfaces, heat treatment, tolerances on mating parts, hydraulic tests, non-destructive testing, etc.

For propellers not covered by the requirements of these Rules, the list of documentation shall be agreed with the Register in each particular case.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Drawings of AMSS installation and securing	AG	●	●	●	
.2	Data to confirm compliance of the AMSS construction with operational conditions	AG	●		●	
.3	Calculation of loads acting on AMSS and its basic elements	AG	●		●	The documentation listed in 3.2.7.9.3 — 3.2.7.9.20 of this Part may be submitted together with the documentation required by Section 7 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
.4	AMSS main characteristics, material specification for essential assemblies and parts, service and maintenance manual	AG		●	●	
.5	AMSS test programme (prototype and pilot specimen)	A		●	●	
.6	General view of AMSS with necessary sections	A	●	●	●	
.7	Drawings of bearings and seals of AMSS elements	A	●	●	●	
.8	Calculations of propellers (or impellers of water-jets) of AMSS elements, shafts, couplings, pinions and gear wheels of steerable propellers, water-jets and thrusters (when CP-propeller is used, refer to 3.2.7.9)	AG	●	●	●	
.9	Drawings of propellers of AMSS elements (or impellers of water-jets), shafts, couplings, pinions and gear wheels of steerable propellers, water-jets and thrusters (when CP-propeller is used, refer to 3.2.7.9)	A	●	●	●	
.10	Strength calculations of the input drive shaft of rotor, blade, gear of AMSS vertical-axis propellers	AG	●	●	●	
.11	Drawings of shafts, gearing, rotors, blades and pitch control gear of AMSS vertical-axis propellers	A	●	●	●	
.12	Calculation of connections	AG	●	●	●	
.13	Drawings of propeller nozzles and tunnels, including information on acceptable clearance between ready-fitted propeller and tunnel (nozzle)	A	●	●	●	
.14	Hull member drawings and drawings of reversible-steering gear of AMSS water-jets	A	●	●	●	
.15	Diagrams of cooling, lubricating and hydraulic turning systems for steerable propellers (blades of CP-propellers) of AMSS, as well as particulars of piping of the above mentioned systems	A	●	●	●	
.16	Calculations of electric drives for electrically driven AMSS	AG	●	●	●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.17	Diagrams of electric drives for electrically driven AMSS	A	●	●	●	
.18	Documentation on monitoring, control, and protection systems of AMSS	A	●	●	●	
.19	Torsional vibration calculations (for main AMSS and dynamic positioning systems) and service life calculation of rolling bearings	AG	●	●	●	
.20	Rotational and pendular vibration calculations for steerable propellers if used as main AMSS	AG	●	●	●	

3.2.8 Documentation on automation equipment.

3.2.8.1 General documentation

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Technical description of automation systems and devices with indication of their purpose and principle of operation	AG	●			
.2	Technical description of automation systems and devices with indication of their purpose, principle of operation, their functions, configuration, self-diagnosis principles, with mandatorily designated system integrator (shipyard or, by cooperation, contracted alternative organization/supplier) for each system as well as consoles and control and monitoring switchboards in the main machinery control room and on the navigation bridge	AG			●	
.3	List of controlled parameters with indication of unique identifier, parameter description, type of signal (i.e. analogue/digital, input/output, etc.), distribution by automation systems and devices depending on the signal intended functional purpose (control, alarms, protection, indication), distribution by automation equipment groups	A	●		●	
.4	General arrangement plans of automation equipment in the main machinery control room and on the navigation bridge	A	●		●	
.5	Diagrams of power supply for automation systems: alarm and monitoring systems (AMS), centralized monitoring systems and integrated control systems and AMS, remote automated control systems for main machinery and propellers, automation systems of auxiliary engines and electric power plant, automation systems of boiler plant, automation systems of compressor plants, automation system of bilge and ballast systems, remote level indicating systems	A	●	●	●	
.6	Technical background containing the design intent of a dynamic positioning system with indication of the equipment redundancy level for ships with distinguishing marks **DYNPOS-2** or **DYNPOS-3** in the class notation, with substantiation of the worst-case failure design intent when, after occurrence of the worst-case failure, the ship will be able to keep heading and/or position in the specified environmental conditions	AG	●		●	
.7	General arrangement plan of the dynamic positioning system equipment, including thrusters, switchboards and panels of dynamic positioning system with indication of main and back-up (if any) control stations, position reference systems and external force sensors	A	●		●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.8	Drawings of cable runs (power and control cables) with indication of their penetrations through watertight and fire-fighting bulkheads of ships with distinguishing mark **DYNPOS-3** in the class notation	A	●		●	

3.2.8.2 Documentation on individual automation systems, consoles and control and monitoring switchboards.

Technical documentation listed in 3.2.8.2 shall be submitted by the designer or system integrator specified in 3.2.8.1.2 of this Part. In the latter case, the documentation shall be developed taking into account the solutions adopted in technical documentation listed in 3.2.8.1 of this Part, and submitted for approval at the stage of delivery and installation to the RS Branch Office for technical supervision during construction together with the documentation according to 1.4.1 of Part XV "Automation" of these Rules approved during technical supervision of automation equipment as required by Section 12 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.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Functional diagrams of AMS, centralized monitoring systems, computer-based and integrated control systems and AMS, including diagrams of power supply	A	●			
.2	Technical documentation on alarm and monitoring systems (AMS), centralized monitoring systems and integrated control systems and AMS, including functional diagrams, face panels of consoles and control and monitoring switchboards with indication of all devices, diagrams of power supply	A			●	
.3	Technical documentation on remote automated control for main engines and propellers: including functional diagrams, remote automated control console panels with indication of all devices, diagrams of power supply of remote automated control	A	●		●	
.4	Technical documentation on automation of auxiliary engines and electric power plant, functional diagrams and face panels of consoles and control and monitoring switchboards for electric power plant with indication of all devices	A	●		●	
.5	Technical documentation on automation of boiler plant: functional diagrams and face panels of consoles and control and monitoring switchboards with indication of all devices	A	●		●	
.6	Functional diagrams of automation of compressor plants	A	●		●	
.7	Functional diagrams of automation and remote control of bilge and ballast systems	A	●		●	
.8	Functional diagrams of remote level indicating systems	A	●		●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.9	Diagrams of electric connections for automation systems and equipment: alarm and monitoring systems (AMS), centralized monitoring systems and integrated control systems and AMS, remote automated control systems for main machinery and propellers, automation system of auxiliary engines and electric power plant, automation system of boiler plant, automation system of compressor plants, automation system of bilge and ballast systems, remote level indicating systems (with indication of cable types and places of installation of all system elements and devices)	A		●	●	
.10	Drawings of face panels of consoles and control and monitoring switchboards in the main machinery control room and on the navigation bridge with indication of all devices	A			●	
.11	Technical background with description of operating conditions, principle of operation, operating modes, with substantiation of dynamic positioning system redundancy level according to a distinguishing mark to be added to the class notation	AG			●	
.12	Drawings of panels of main and back-up (for **DYNPOS-3**) control stations of dynamic positioning system with indication of location of controls, thruster emergency stops, alarm devices, indicators and internal communications	A	●		●	
.13	Failure modes and effects analysis (FMEA) (refer to 8.2.1 of Part XV "Automation") of dynamic positioning system taking into account the design intent as specified in 3.2.8.1.7 of this Part	AG	●	●	●	
.14	List of critical components of dynamic positioning system	AG	●	●	●	
.15	Blackout recovery procedure for dynamic positioning system	AG		●	●	
.16	Capability plots demonstrating ship's position keeping capacity at least for fully effective dynamic positioning system and post worst-case failure condition for particular environmental conditions	AG		●	●	
.17	Functional diagrams of computer-based dynamic positioning control system with indication of inputs and outputs with feedbacks and power supplies	A		●	●	

3.2.9 Documentation on systems and piping.

Documentation listed in 3.2.9.1 and 3.2.9.2 shall contain data on pipe dimensions (diameter and wall thickness) as well as on material of the pipes used, hydraulic tests, material of gaskets and types of pipe connections.

Information on piping design (manufacturing technology, heat treatment, methods of inspection, insulation, installation, piping laying, etc.) shall be specified directly in the technical documentation or may be present there as a reference to the shipyard standard or industry standard, the application of which for the ship project is agreed with the Register.

3.2.9.1 Ship's systems.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Documentation on ship's systems: calculations of the systems — bilge, ballast, vapour emission control; calculations of ventilation of battery rooms, cargo pump rooms, enclosed spaces and holds intended for the carriage of motor and road vehicles	AG	●		●	
.2	Bilge system diagram	A	●		●	
.3	Drawings of bilge pipes	A		●		
.4	Drawings of position and details of attachment of valves at the collision bulkhead	A		●	●	
.5	Ballast system diagram	A	●		●	
.6	Drawings of ballast pipes	A		●		
.7	Heel and trim system diagrams and diagrams of devices (automatic and manually controlled) for ship equalization by cross-flooding	A	●		●	
.8	Drawings of heel and trim system, diagram and design of devices (automatically and manually controlled) for ship equalization by cross-flooding	A		●		
.9	Air, overflow and sounding pipes diagrams	A	●		●	
.10	Drawings of air, overflow, sounding pipes, liquid level indicators, remote level gauging system in fuel oil tanks, cargo and slop tanks of oil tankers	A		●		
.11	Diagrams of ventilation and air conditioning systems of accommodation, service, cargo, machinery and production spaces with indication of watertight and fire-fighting bulkheads, arrangement of fire dampers, as well as indication of closures of ventilation ducts and openings	A	●		●	
.12	Drawings of ventilation ducts of accommodation, service, cargo, machinery and production spaces, with indication of design of fire dampers and of means of closing the ventilation ducts and openings required to ensure fire safety of the ship	A		●		

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.13	Diagrams of vent pipes and venting equipment (design of flame arresters, flame screens, pressure/vacuum valves and high velocity vents)	A	●		●	
.14	Drawings of vent pipes and venting equipment (design of flame arresters, flame screens, pressure/vacuum valves and high velocity vents)	A		●		
.15	Diagrams of sewage, and sanitary and domestic waste water systems, as well as scuppers with indication of watertight bulkheads, freeboard deck and distances from waterline or freeboard deck to the relevant discharge openings, as stated in 4.3.2.4 and 4.3.2.6 of Part VIII "Systems and Piping"	A	●		●	
.16	Drawings of pipelines of sewage, and sanitary and domestic waste water systems and scuppers	A		●		
.17	Diagrams of pipelines of cargo and stripping systems	A	●		●	
.18	Drawings of pipelines of cargo and stripping systems	A		●		
.19	Diagrams of pipelines of cargo heating system	A	●		●	
.20	Drawings of pipelines of cargo heating system	A		●		
.21	Diagrams of pipelines of fueling and fuel transfer system	A	●		●	
.22	Drawings of pipelines of fueling and fuel transfer system	A		●		
.23	Diagram of thermal liquid system	A	●		●	
.24	Drawings of pipelines of thermal liquid system	A		●		
.25	Diagrams of sea chest heating and blow-down systems, heating system of side valves, heating system for liquids in tanks, steaming system for tanks	A	●		●	
.26	Drawings of sea chest heating and blow-down systems, heating system of side valves, heating system for liquids in tanks, steaming system for tanks	A		●		
.27	Diagram of compressed air system for typhons, for blow down of the sea chests	A	●		●	
.28	Drawings of compressed air system for typhons, for blow down of the sea chests	A		●		
.29	Diagrams of systems for hydraulic drives of mechanisms and arrangements	A	●		●	
.30	Drawings of systems for hydraulic drives of mechanisms and arrangements	A		●		
.31	Diagrams of special systems for oil tankers and combination carriers	A	●		●	
.32	Drawings of special systems for oil tankers and combination carriers	A		●		
.33	Diagram of fuel oil loading, transfer, storage and helicopter bunkering system, diagram of off-grade aviation fuel collection, storage and defueling system	A	●		●	
.34	Drawings of fuel oil loading, transfer, storage and helicopter bunkering system, diagram of off-grade aviation fuel collection, storage and defueling system	A		●		

3.2.9.2 Machinery installation systems.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Diagrams of live and waste steam systems, of blow-down systems for boilers, machinery and steam pipes	A	●		●	
.2	Drawings of live and waste steam systems, of blow-down systems for boilers, machinery and steam pipes	A		●		
.3	Diagram of feed water and condensate systems	A	●		●	
.4	Drawings of pipes of feed water and condensate systems, evaporating plant	A		●		
.5	Diagram of fuel oil system	A	●		●	
.6	Calculation of fuel oil service tank capacity of emergency diesel-generator	AG	●		●	
.7	Drawings of pipelines of fuel oil system	A		●		
.8	Diagram of lubricating oil system	A	●		●	
.9	Drawings of pipelines of lubricating oil system	A		●		
.10	Diagrams of fresh water and sea water cooling systems	A	●		●	
.11	Drawings of pipelines of fresh and sea water cooling system	A		●		
.12	Diagram of fuel oil, water and lubricating oil heating systems; structural drawings of assemblies and connections of heating elements	A	●		●	
.13	Drawings of pipelines of fuel oil, water and lubricating oil heating systems; structural drawings of assemblies and connections of heating elements	A		●		
.14	Diagram of starting air system	A	●		●	
.15	Calculation of starting air system	AG	●		●	
.16	Drawings of pipelines of compressed air system	A		●		
.17	Diagram of exhaust gas pipes and uptakes	A	●		●	
.18	Drawings of silencers and spark arresters of exhaust gas pipes and uptakes	A		●	●	The documentation may be submitted together with the documentation required by Section 8 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

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.19	Drawings of pipelines of exhaust gas and uptake systems	A		●		
.20	Drawing of equipment of sea chests and ice boxes	A	●	●	●	
.21	Drawings of position and details of attachment of bottom and side valves	A		●	●	
.22	Calculation of air pipes and ventilator pipes on open deck spaces	AG	●		●	
.23	Drawings of air pipes and ventilator pipes on open deck spaces	A	●	●	●	
.24	Drawings of pipelines and ventilation ducts penetrations through the watertight bulkheads, fire-fighting divisions, decks and platforms	A		●	●	

3.2.10 Documentation on electrical equipment.

Technical documentation listed in 3.2.10.2 of this Part shall be submitted by the designer or alternative organization (contracted manufacturer, supplier, shipyard or system integrator). In the latter case, the documentation shall be developed taking into account the solutions adopted in technical documentation listed in 3.2.10.1 of this Part, and shall be submitted for approval at the stage of delivery and installation to the RS Branch Office for technical supervision during construction, together with the documentation according to 1.4.2 of Part XI "Electrical Equipment" of these Rules, approved under technical supervision of electrical equipment as required by Section 10 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.

When the ship is equipped with a refrigerating plant to be surveyed in accordance with 4.1.1 of this Part, documentation specified in 3.2.10.1 and 3.2.10.2 of this Part shall contain the data on electrical equipment of the refrigerating plant.

3.2.10.1 General documentation.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Diagrams of power generation and distribution from the main and emergency sources of electrical power: power networks, lighting networks (up to distribution switchboards) and navigation lights	A	●		●	
.2	Single-line diagrams and general view of the main and emergency switchboards, control desks and other switchboards of non-standard design	A	●		●	
.3	Calculation results of necessary output of the ship's electric power plant to ensure the operating conditions specified in 3.1.5 of Part XI "Electrical Equipment", substantiation of the choice of the number and power output of generators, as well as calculation of capacity of emergency sources of electrical power	AG	●		●	
.4	Circuit diagrams of the main current, excitation, control, monitoring, signalling, protection and interlocking of the electric propulsion plant	A	●			
.5	Detailed diagrams of the main current, excitation, control, monitoring, signalling, protection and interlocking of the electric propulsion plant	A		●	●	
.6	Calculation results of cross-sections of cables with indication of their types, types of currents and protection	AG	●		●	
.7	Calculation results of necessary power output of electric propulsion plant generators to ensure normal operation under all operating conditions	AG	●		●	
.8	Results of short-circuit current calculations and analysis of selective properties of protective devices for rated current of the generators or the generators operating in parallel in excess of 1000 A	AG	●		●	
.9	Calculation results of illumination intensity for areas and spaces	AG	●		●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.10	Diagrams of internal communication and signalling according to Section 7 of Part XI "Electrical Equipment"	A	●		●	
.11	Documentation on fixed electrical measuring instruments and alarm systems for ultimate concentration of dangerously explosive and noxious gases	A		●	●	
.12	Diagrams of the protective, lightning protection and antistatic earthing	A	●	●	●	
.13	Arrangement diagram of cable runs with indication of spaces which they pierce, including information on power supply cables for services required for operation under fire conditions in case of their transit routing through high fire risk spaces (refer to 16.8.1.9 and 16.8.1.11 of Part XI "Electrical Equipment")	A	●		●	
.14	Capacity calculation results for accumulator batteries of emergency lighting, navigation lights, general alarm system, fire alarm system and fire smothering appliances, starting arrangements of the emergency diesel generators	AG	●		●	
.15	Results of calculation of the expected total harmonic distortions (non-sinusoidality) for different parts of the ship mains when using power semiconductor units, as well as harmonic distortion calculation results following the harmonic filters failure during their installation in the ship's electrical distribution system	AG	●		●	
.16	Calculation of expected efficiency of overload protection of generator sets by means of disconnection of the part of consumers with explanations of the number of disconnection steps and the list of disconnected consumers in every step	AG	●		●	
.17	Diagram and drawing of disconnection and blocking system of electrical equipment, which is not used in the oil recovery ship operations on elimination of oil spills	A	●	●	●	
.18	List of electrical equipment installed in dangerous zones containing information on spaces and areas where it is installed with indication of zones and spaces according to 19.2.3.1 of Part XI "Electrical Equipment", and information on this equipment with indication of type of explosion protection and number of certificate on safe-type electrical equipment issued by a special competent body	AG	●		●	
.19	Calculation of voltage drop when a consumer with the maximum starting power is switched on	AG	●		●	
.20	Drawings of cable runs and their penetrations through watertight, gastight and fire-fighting bulkheads, decks and platforms	A		●	●	
.21	List of measures to ensure the electromagnetic compatibility of a ship equipment	A	●	●	●	
.22	Diagrams and drawings of devices to ensure the electromagnetic compatibility	A		●	●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.23	Diagrams of the main and emergency lighting in the spaces and places of arrangement of essential devices, along the escape routes, at survival craft muster and embarkation stations on deck and outboard (supplying from distribution switchboards)	A	●	●	●	
.24	Drawings of layout and installation of essential electrical equipment	A	●	●	●	
.25	Diagrams and installation and layout drawings of electrical apparatus and facilities for measuring non-electric values (level, pressure, temperature gauges, etc.)	A	●	●	●	
.26	Technical background containing substantiation for distinguishing mark **EPP** (if applicable) in the class notation	AG	●		●	
.27	Drawing of dangerous spaces and zones (only for oil tankers, oil recovery ships, ships carrying liquefied gases in bulk and ships carrying compressed natural gas, chemical tankers, ships, other than LG carriers, using gases or other low flashpoint fuels and ships carrying dangerous goods)	A	●		●	
.28	Drawing of main and emergency switchboards arrangement with indication of structural dimensions, passageways width and distance from the hull elements, equipment and pipelines to these switchboards	A	●	●	●	

3.2.10.2 Documentation on certain types of electrical equipment.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Circuit diagrams of essential electric drives (according to 1.3.2.1 and 1.3.2.2 of Part XI "Electrical Equipment")	A	●			
.2	Diagrams of essential electric drives (according to 1.3.2.1 and 1.3.2.2 of Part XI "Electrical Equipment") with indication of cable types and places of installation of all elements of the diagrams	A		●	●	
.3	Diagrams of lubrication systems for electrical machines and air cooling systems for the main electrical machines	A	●	●	●	
.4	Failure modes and effects analysis (FMEA) for all electric and hydraulic components of the podded azimuth thrusters used as the rudder and steering gear	AG	●	●	●	
.5	Diagrams of electric connections (for systems and equipment specified in 3.2.10.1.1, 3.2.10.1.2, 3.2.10.1.5, 3.2.10.1.10 and 3.2.13.2) with indication of cable types and places of installation of all elements of the diagrams	A	●	●	●	
.6	Documents on portable electrical measuring instruments and alarm systems for ultimate concentration of dangerously explosive and noxious gases	A	●	●	●	
.7	Assembly drawings of the main and emergency switchboards, electric propulsion plant switchboards, control stations and panels, special switchboards, power and lighting switchboards	A	●	●	●	

3.2.11 Documentation on arrangements and equipment for the prevention of pollution from ships.

3.2.11.1 For ships of all types.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Arrangement plan of oil fuel tanks	A	●	●	●	
.2	Calculation confirming protective location of oil fuel tanks relative to shell plating (Regulation 12A of Annex I to MARPOL 73/78), if applicable	AG	●		●	
.3	Calculation of required capacity of oil residue (sludge) holding tanks, oily bilge water holding tanks and their arrangement plans, as well as calculation of capacity of sewage holding tanks and garbage receptacles	AG	●		●	
.4	Diagram of bilge water piping	A	●	●	●	
.5	Diagram of oil residue (sludge) piping	A	●	●	●	
.6	Diagram of sewage piping	A	●	●	●	
.7	Calculation of the discharge rate of untreated sewage	A	●		●	
.8	Energy Efficiency Design Index Technical File (EEDI Technical File) in accordance with the Guidelines 2014 on Survey and Certification of Energy Efficiency Design Index (IMO resolution MEPC.254(67) as amended), if applicable	AG	●		●	
.9	Calculation of required Energy Efficiency Existing Ship Index (required EEXI), if applicable	AG	●		●	
.10	Diagram of incinerator system piping and garbage processing device	AG	●	●	●	

3.2.11.2 For oil tankers (in addition to the documentation listed in 3.2.11.1).

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Calculation of slop tanks capacity	AG	●		●	
.2	Calculation of accidental oil outflow (regulation 23 of Annex I to MARPOL 73/78)	AG	●		●	
.3	Arrangement plan of cargo and slop tanks and calculation confirming their protective location relative to shell plating (regulation 19 of Annex I to MARPOL 73/78)	AG	●	●	●	
.4	Calculation confirming protective location of cargo pump room relative to shell plating (regulation 22 of Annex I to MARPOL 73/78), if applicable	AG	●		●	
.5	Diagram of emergency rapid cargo transfer system (if applicable in accordance with regulation 23 of Annex I to MARPOL 73/78)	A	●	●	●	
.6	Diagram of crude oil washing system and shade diagram (if applicable)	A	●	●	●	
.7	Arrangement plan of discharge outlets	A	●	●	●	
.8	Diagram of transfer of oil residues and tank washings from cargo tank areas into slop tanks	A	●	●	●	
.9	Diagram of ballast and washing water discharge monitoring and control system (if applicable)	A	●	●	●	

3.2.11.3 For tankers carrying noxious liquid substances, in addition to the documentation listed in 3.3.11.1.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Calculation of size of underwater discharge outlet	AG	●		●	
.2	Diagram of cargo tank ventilation systems (if applicable for tank cleaning)	A	●	●	●	
.3	Arrangement plan of discharge outlets	A	●	●	●	

3.2.12 Documentation on cargo handling gear.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	General view of cargo handling gear with indication of its principal characteristics, arrangement on board the ship and securing of the cargo handling gear in the stowed for sea position	FI	●		●	

3.2.13 Documentation on refrigerating plants.

In case of unclassed refrigerating plant, drawings in accordance with 3.2.13.2, 3.2.13.3 and 3.2.13.4 (for refrigerant only), 3.2.13.5, 3.2.13.6 and 3.2.13.10 shall only be submitted.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Refrigerating capacity calculation with indication of cooling load from each refrigerated cargo space and cold consumer	AG	●		●	
.2	Diagrams of a refrigerating plant with indication of refrigerating equipment and piping arrangement on board the ship, places for installation of temperature control devices and devices of atmosphere control system	A	●		●	
.3	Installation drawings of refrigerating equipment with indication of equipment arrangement in the refrigerating machinery space, and escape routes	A		●		
.4	Circuit diagrams of main and emergency ventilation systems of refrigerating machinery space and other spaces containing equipment under a refrigerant pressure with indication of the watertight and fire-fighting bulkheads, as well as the number of air changes per hour	A	●		●	
.5	Circuit diagrams of refrigerant, secondary refrigerant, cooling water systems with indication of places for installation of indicating and measuring instruments and automatic devices	A	●		●	
.6	Drawings of pipelines of refrigerant, secondary refrigerant, cooling water systems with indication of places for installation of indicating and measuring instruments and automatic devices	A		●		
.7	Air cooling diagram with indication of watertight and fire-fighting bulkheads	A	●		●	
.8	Drawings of pipelines of air cooling system with indication of watertight and fire-fighting bulkheads	A		●		
.9	Circuit diagram of water-screen system of refrigerating machinery space (for Group II refrigerant)	A	●		●	
.10	Drawings of pipelines of water-screen system of refrigerating machinery space (for Group II refrigerant)	A		●		
.11	Tables of the values of the bounding surface areas of the refrigerated cargo spaces with data on calculated heat-transfer factor for each surface and averaged heat-transfer factor for the insulating structure of refrigerated spaces	AG	●		●	
.12	Drawings of cargo cooling air ducts to thermal containers with indication of the layout on board	A	●	●	●	
.13	Drawings of air duct insulation with technical data of insulating materials	A		●	●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.14	Arrangement plan of emergency discharge system of refrigerant	A	●	●	●	

3.2.14 Documentation on cyber safety.

Documentation listed in 3.2.14 of this Part shall be submitted to RHO for review for all ships contracted for construction on or after 1 January 2021 in accordance with the Guidelines on Cyber Safety.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Concept of computer based system	AG	●		●	The document shall contain at least the following information: purpose of computer based system with brief description of functions; flowchart (plan) clearly identifying shipboard systems controlled/monitored by the computer based system. The flowchart (plan) shall also contain the following information: communications with external network for monitoring, control and performance of administrative functions; communications with other computer based systems
.2	Description of data transmission networks	AG	●		●	The document shall contain the following information: physical location of the system and subsystem components (e.g., name of a space, deck of location, etc.); category I system communications with category II or III systems; network topology of systems and subsystems (star, ring, etc.); applicable network technologies (e.g., Gigabit Ethernet, Fast Ethernet); applicable network cables (twisted pair, fibre optic, etc.); communications from controllers and field devices (MODBUS, Fieldbus, etc.); network diagrams

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
						indicating the devices, nodes, network cable details and general locations of the equipment; list of IT and OT systems indicating their categories; data flows and network devices or resources potentially limiting them; details of external connections for remote access; access points and interfaces, including machine-to-machine (M2M) interfaces; logical diagrams of shipboard networks

3.2.15 Documentation on accommodation spaces.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Plans of accommodation spaces containing the following information on: location and size of each space; ventilation, heating, and hot and cold running fresh water in accommodation spaces; location of furniture and equipment, including electrical equipment, in cabins (sleeping rooms); location of equipment in sanitary spaces, dining rooms (mess rooms), recreation rooms and medical rooms (hospital accommodation)	A	●		●	

3.2.16 Documentation of supply vessels carrying manned submersibles or ship's diving systems (vessels having distinguishing marks SDS or MS in the class notation).

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	General arrangement plans of manned submersibles or ship's diving systems on the vessel-carrier	A	●	●	●	
.2	Arrangement plan of fire-fighting divisions in the vessel-carrier's spaces intended for control, communications and arrangement of manned submersibles and ship's diving system, as well as in the spaces for positioning of ancillary equipment of manned submersibles with indication of doors, closures of openings, passages (cutouts) in such divisions	A	●	●	●	
.3	Diagrams, drawings and calculations of fire extinguishing systems for the spaces specified in 3.2.16.2	A	●	●	●	
.4	Diagram of fire protection and alarm system and alarm system for the spaces specified in 3.2.16.2 and layouts of the devices to monitor explosion/fire-hazardous concentrations of combustible gases in the storerooms for cylinders with flammable gases, compressors, accumulator batteries, etc.	A	●	●	●	
.5	Detailed description of fire protection of the spaces with indication of insulating and finishing materials, their location and combustibility for the spaces specified in 3.2.16.2	A	●	●	●	
.6	Documentation on handling system of manned submersibles (except for documentation on handling system components located on the manned submersible to be submitted together with the documentation on the manned submersibles)	A	●		●	

3.2.17 Documentation for assignment of distinguishing marks and descriptive notations in the class notation specifying structural and operational particulars of ships.

In addition to 3.1.9, an operational documentation required for assignment of distinguishing marks and descriptive notations, is specified in the relevant Sections of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships".

3.2.17.1 Escort tug.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Towing arrangement plan required for escort service, including towing line path and minimum breaking strength of towing line components and strength of appropriate structures	A	●		●	
.2	Preliminary calculation of maximum steering pull of the tug at the escort test speed of 8 and/or 10 knots, including propulsion components of the escort tug for balancing of oblique angular position of the tug	AG	●		●	
.3	Preliminary tug stability calculations	AG	●		●	
.4	Plan of full scale trials	AG	●		●	

3.2.17.2 ECO and ECO-S.

3.2.17.2.1 Technical documentation in respect of air pollution prevention

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Drawings of exhaust gas cleaning system, if applicable, which shall be approved in accordance with the IMO Guidelines	A	●	●	●	For exhaust gas cleaning systems to reduce emissions of: nitrogen oxide (NO_x) — in accordance with the NO_x Technical Code and IMO resolution MEPC.291(71) as amended; sulphur oxide (SO_x) — in accordance with IMO resolution MEPC.34(77) as amended
.2	Incinerator systems diagram	A	●	●	●	If not submitted previously
.3	Refrigerating systems diagrams, list of refrigerants used	A	●	●	●	If not submitted previously
.4	Fire-fighting systems diagrams, list of fire extinguishing media used in these systems	A	●	●	●	If not submitted previously
.5	Energy Efficiency Design Index (EEDI) Technical File and/or Energy Efficiency Existing Ship Index (EEXI) Technical File, as applicable	AG	●	●	●	If not submitted previously

3.2.17.2.2 Technical documentation in respect of marine environment pollution prevention

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Ship's general arrangement plan and tanks plan	FI	●		●	If not submitted previously
.2	Documentation confirming compliance of the oil tanker with the requirements for double hull construction in accordance with regulation 19 of Annex I to MARPOL 73/78	A	●	●	●	If not submitted previously
.3	Documentation confirming compliance of the ship with the requirements for protective location of fuel oil tanks (refer to Section 3 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships")	A	●	●	●	If not submitted previously
.4	Ship's Guidelines for Safe Water Ballast Exchange at Sea (where applicable)	A	●	●	●	If not submitted previously
.5	Sewage system diagram	A	●	●	●	If not submitted previously
.6	Diagrams of manifolds in cargo areas, as well as branch pipes and flanges for fuel oil and oil bunkering, oil residues and oily water discharge indicating the trays and appliances for prevention of spillage of oil and noxious liquid substances carried in bulk	A	●	●	●	If not submitted previously
.7	Diagrams and drawings of fuel oil system, bilge system, oil discharge, monitoring and control system for ballast and flushing water, ballast water system	A	●	●	●	If not submitted previously
.8	Sanitary and domestic waste water system diagram	A	●	●	●	If not submitted previously

3.2.17.3 ANTI-ICE

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	List of technical solutions applied onboard the ship and ensuring compliance with the requirements of Section 4 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"	AG	●		●	
.2	Arrangement plan of de-icing and anti-icing means with indication of their heating capacity	A	●	●	●	
.3	Calculations of heating capacity of anti-icing systems equipment	AG	●		●	
.4	Electrical single-line diagram of anti-icing systems with heating cables (if any)	A	●	●	●	
.5	Circuit diagrams of steam and/or thermal liquids anti-icing systems (if any)	A	●	●	●	

3.2.17.4 BLS-SPM

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Bow loading system (BLS) general arrangement plan with an indication of the cargo system and mooring equipment, including: bow loading coupler, guide roller, chain stopper, traction winch, hawse storage reel, BLS hull structures, control stations	A	●	●	●	The documentation may be submitted together with the documentation required by Section 7 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
.2	Description and drawings of the bow loading coupler	A	●	●	●	
.3	Drawings of hull strengthenings for bow hawses and chain stoppers	A	●	●	●	
.4	Calculation of hull strengthenings for bow hawses and chain stoppers	AG	●		●	
.5	Fire protection diagram for BLS area	A	●		●	
.6	Diagram of ventilation of BLS special spaces	A	●	●	●	
.7	Calculation of ventilation of BLS special spaces	AG	●		●	
.8	Drawings of electrical equipment layout and cable laying in BLS spaces	A	●	●	●	
.9	BLS circuit diagrams	A	●		●	
.10	BLS diagrams of electric connections	A	●	●	●	
.11	Diagrams of BLS hydraulic system	A	●	●	●	
.12	BLS test program	A		●	●	

3.2.17.5 HELIDECK, HELIDECK-F or HELIDECK-H

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Structural helideck and hangar deck drawings with indication of design loads	A	●	●	●	
.2	Scantlings determination of helideck and hangar deck, as well as of deck- and bulkhead stiffeners in way of helicopter tie-down points	AG	●		●	
.3	General arrangement plan of a helicopter facility elements with indication of escape routes, tie-down points, location of fire-fighting equipment and life-saving appliances, arrangement plan and specification of lighting and illumination means	A	●	●	●	
.4	Drawing of helideck safety net	A	●	●	●	
.5	Diagram of power driving gear for the helideck safety net hoisting and lowering, if any	A	●		●	
.6	Diagram of helideck drainage system	A	●	●	●	
.7	Diagram of fuel oil loading, transfer, storage and helicopter refuelling system	A	●	●	●	
.8	Diagram of off-grade aviation fuel collection, storage and defueling system	A	●	●	●	
.9	Diagram of nitrogen system for aviation fuel	A	●	●	●	
.10	Electric diagram of main and emergency lighting in the spaces of helicopter facility arrangement	A	●		●	
.11	Circuit diagram of helideck lighting and illumination means	A	●		●	
.12	Drawings of electrical equipment layout and cable laying on the helideck, in hangar and in other spaces of helicopter facility arrangement	A	●	●	●	
.13	Documentation on helideck and hangar deck covering	A	●	●	●	
.14	Helicopter facility test program	A	●	●	●	
.15	Diagram of obstacle restriction and removal approved by the Flag State Civil Aviation Authority	FI	●		●	
.16	Drawing of helideck and obstacle marking (colour, dimensions and configuration of marks shall be indicated), approved by the Flag State Civil Aviation Authority	FI	●	●	●	

3.2.17.6 WINTERIZATION(DAT)

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	List of technical solutions applied onboard the ship and ensuring compliance with the requirements of Section 7 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"	AG	●		●	
.2	Single-line diagrams of electric heating systems (electric heating appliances, systems utilizing heating cables)	A	●	●	●	

3.2.17.7 RP-1, RP-1A, RP-1AS, RP-2 or RP-2S

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Calculation results demonstrating that a single failure does not lead to the loss of propulsion and ship's steering according to 8.5.3 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships" (for ships with the distinguishing marks **RP-1A**, **RP-1AS**, **RP-2** or **RP-2S**). As an alternative, the results of the model or full-scale tests may be submitted	AG	●		●	
.2	Qualitative failure analysis for propulsion and steering or FMEA of the propulsion plant components based on the failure tree or the equivalent risk analysis	AG	●		●	
.3	Torsional vibration calculations in compliance with 3.2.7.8.9 of this Part; at that the possibility of long-term operation of the alternative propulsion plant shall be considered separately (for ships with the distinguishing marks **RP-1A**, **RP-1AS**)	AG	●		●	

3.2.17.8 GFS

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Drawings of fuel tanks arrangement with their distances from side plating and the bottom specified	A	●		●	
.2	Drawings of supports and other structures to ensure fastening and limiting shifting of fuel tanks	A	●	●	●	
.3	Calculations of heat emission from the flame which may occur during the fire affecting gas fuel tanks and other equipment and spaces related to gas fuel	AG	●		●	
.4	Drawings and diagrams of systems and piping for gas fuel specifying such assemblies as compensators, flange joints, stop and control valves and fittings, drawings of quick-closing arrangements of the gas fuel system, diagrams of gas fuel preparation, heating and pressure control	A	●	●	●	
.5	Calculations of stresses in piping containing gas fuel at a temperature below – 110 °C	AG	●		●	
.6	Drawings of safety and vacuum safety valves of fuel storage tanks	A	●	●	●	
.7	Drawings and descriptions of all systems and arrangements for the measurement of fuel amount and characteristics, and for gas detection	A	●	●	●	
.8	Diagrams of gas fuel pressure and temperature control and regulating systems	A	●	●	●	
.9	Drawings of bilge and ballast systems in gas-hazardous spaces	A	●	●	●	
.10	Calculations of bilge and ballast systems in gas-hazardous spaces	AG	●		●	
.11	Diagrams of gas-dangerous spaces ventilation	A	●	●	●	
.12	Calculations of gas-dangerous spaces ventilation	AG	●		●	
.13	Diagrams of gas-freeing system	A	●	●	●	
.14	Calculations of gas-freeing system	AG	●		●	
.15	Circuit diagrams of electric drives and control systems for fuel preparation plants, ventilation of hazardous spaces and airlocks	A	●	●	●	
.16	Circuit diagrams of electric measurement and alarm systems for equipment related to the use of gas fuel	A	●	●	●	
.17	General arrangement drawings of electrical equipment related to the use of gas fuel	A	●	●	●	
.18	Drawings of cable laying in hazardous spaces and areas	A	●	●	●	
.19	Drawings of earthing for electrical equipment, cables, piping located in gas-dangerous spaces	A	●	●	●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.20	Technical background of electrical equipment fitness	AG	●		●	
.21	General arrangement drawings of gas-containing equipment	A	●	●	●	The drawings shall specify the layout of the gas fuel storage tanks and any openings in them; spaces for fuel storage and preparation and any openings to them; doors, hatches and any other openings into hazardous spaces and areas; venting pipes and air inlet and outlet locations of a ventilation system of hazardous spaces and areas; doors, scuttles, companions, ventilation duct outlets locations and other openings in spaces adjacent to hazardous area
.22	Analysis of risks related to the use and storage of gas fuel and possible consequences of its leakages according to IACS Recommendations No. 146. The analysis shall consider the risks of damage of hull structural members and failure of any equipment after accident related to the use of gas fuel. The results of risk analysis shall be taken into account in the operating manual	AG	●		●	
.23	Drawings of liquefied natural gas (LNG) tanks arrangement	A	●	●	●	
.24	Calculation of liquefied natural gas (LNG) tanks arrangement in compliance with the requirements of the International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels (IGF Code)	AG	●		●	
.25	Drawing of compressed natural gas (CNG) tanks	A	●	●	●	
.26	Calculation of CNG tanks in compliance with the requirements of the Rules for the Classification and Construction of Ships Carrying Compressed Natural Gas	AG	●		●	
.27	Calculation of permissible pressure when using standard cylinders	AG	●		●	

3.2.17.9 LNG bunkering ship RE/IG-Supply/BOG

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	General arrangement of the ship with indication of LNG bunkering station, bunkering control station and escape routes	FI	●	●	●	If not submitted previously
.2	Diagram of the cargo system; drawings of hose lines, swivels and transfer arms (where applicable)	A	●	●	●	
.3	Description of the cargo system, LNG vapor return transfer system; documentation for the reliquefaction system (where applicable)	AG	●		●	
.4	Diagram of LNG vapor return transfer system	A	●	●	●	
.5	Calculation of maximum allowable bunkering flow	AG	●		●	
.6	Technical documentation for ESD bunkering system (ESD — emergency shutdown system)	AG	●	●	●	
.7	Electrical single line diagrams for all intrinsically-safe circuits	A	●	●	●	
.8	General arrangement plan of electrical equipment in hazardous areas related to bunker operations	A	●		●	
.9	Technical documentation for fire detection and alarm system as well as gas detection system of the bunkering installation, including location of gas detectors, connection lines, valves and sampling points on board the ship	A	●	●	●	
.10	Technical documentation for gauging, alarm and pressure indication system in the cargo tanks and piping	A	●	●	●	
.11	Technical documentation for control and alarm system of cargo pumps	A	●		●	

3.2.17.10 IWS

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Drawing of the marking on the side and bottom plating to identify the tanks	A	●	●	●	

3.2.17.11 Anchor handling vessel

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Arrangement plan of anchor handling equipment: anchor handling winches, shark jaws, towing pins, stern rollers, cargo handling gear, where available, including standard cargo placing on the deck (anchors, cables, chains, etc.) indicating the towing line path, extreme sectors, maximum design towing pull, maximum design load for each component	FI	●		●	
.2	Drawings of foundations and supports for winches, shark jaws, stern rollers and towing pins indicating the maximum design load	A		●	●	At the DD stage refer also to 3.2.2.19 based on the calculations of 3.2.2.1
.3	Electrical power supply circuits and control system configuration of towing equipment and anchor handling equipment	A	●	●	●	
.4	Arrangement plan of operator control stands (user interface) of towing equipment control systems and anchor handling equipment	A	●	●	●	
.5	Technical specification of operator control stands (user interface) of towing equipment control systems and anchor handling equipment	AG	●		●	
.6	Arrangement plan of communication means between the anchor operations control station and wheelhouse	A	●	●	●	
.7	Technical specification of communication means between the anchor operations control station and wheelhouse	AG	●		●	
.8	Bollard pull estimation	FI	●		●	
.9	Bollard pull test procedure	A		●	●	

3.2.17.11.10 For anchor handling winches

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Design criteria, including design loads and characteristics of emergency quick release system of towing line indicating the response time and remaining holding force after release)	FI	●		●	
.2	Strength calculation of winch drum with flanges, shaft couplings, housing and brakes	AG	●		●	
.3	General view	A	●		●	
.4	Assembly drawing	A		●	●	

3.2.17.11.11 For shark jaw, towing pins, stern rollers

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Design criteria, including design loads and characteristics of emergency quick release system in operational and dead ship conditions	FI	●		●	
.2	Strength calculation	AG	●		●	
.3	General view	A	●		●	
.4	Assembly/installation drawing	A		●	●	

3.2.17.12 GRS

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Technical background indicating general ship's data after conversion	FI	●		●	
.2	Drawings of components of systems and machinery required for the use of gas fuel to be installed during the ship's conversion	A	●	●	●	
.3	Drawings of components of systems and machinery required for the use of gas fuel to be installed during the ship's construction	A	●	●	●	
.4	Drawings of hull structures that may be changed during the ship's conversion	A	●	●	●	
.5	Calculation of hull structures that may be changed during the ship's conversion	AG	●		●	
.6	Drawings of hull structures and foundations required for machinery subject to installation during the ship's conversion	A	●	●	●	

3.2.17.13 BMS

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Instruction on maintaining boiler water and chemistry quality in accordance with 16.3.2 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"	AG	●		●	

3.2.17.14 HMS (STR) (STAB) (STR-STAB) + BS/C/DD/N/RPM/SL/SW/TS/ThS/TVS/W

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Technical description	AG	●		●	
.2	Schematic diagram	AG	●		●	
.3	Function block diagram	AG	●		●	
.4	List of measuring channels	AG	●		●	
.5	Arrangement plan with indication of measuring instrument locations, cable laying and hardware installation	A	●		●	
.6	General electrical diagram	A	●		●	
.7	Schematic circuit diagram	A	●	●	●	
.8	Permissible values of parameters used for monitoring in sensor location points	AG	●		●	
.9	Technical description of software, including procedure for calculation of parameters used for monitoring, based on results of measurements	AG	●		●	
.10	Monitoring system operating manual	AG	●		●	
.11	Maintenance instruction manual, including calibration procedure	AG	●		●	
.12	Installation drawings	A		●	●	
.13	Installation, commissioning and adjustment instruction	AG		●	●	
.14	Programme of periodical surveys of the system in service	A	●		●	

3.2.17.14.15 For the monitoring system having connection with other systems, the following shall be additionally submitted

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Schematic diagram of monitoring system connection with other systems	AG	●		●	Where a computer model of ship is used for the monitoring system calculations, the model shall be approved in accordance with 12.2.4.1 to 12.2.4.3 of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships
.2	Diagram of hardware arrangement and cable routing for monitoring system connection with other systems	A	●	●	●	
.3	Schematic circuit diagram for monitoring system hardware intended for connection with other systems	AG	●	●	●	

3.2.17.15 COMF(C)

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Heat balance calculation	FI	●		●	

3.2.17.16 UWILD and UWILD-S

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Technical background containing substantiation of the possibility of the ship operation without drydocking throughout the planned service life, periodical examinations of the shell plating from inside ensuring free passage for the RS surveyor along ship's structures in all directions during surveys	AG	●		●	
.2	Description of means of access to structures from inside and outside (may be drawn up in the form of a manual on means of access), including description of procedures (with the use of divers and other technical means) for installation and securing of temporary blanks required for maintenance and survey of bottom and side valves, closing devices or other structures under water providing free access	FI	●		●	
.3	Installation drawings for bottom and side valves and on board means ensuring maintenance of these valves without dry-docking	A	●	●	●	
.4	Specification of protective coatings	A	●	●	●	Data on coatings used for anticorrosive protection of the inside and the outside of the bottom and side plating of ship's underwater part with confirmation based on the hull coating manufacturer's guarantee that the coatings applied onto ship's bottom have been designed to remain in undamaged condition within the particular period of time (ship service period or possible operation period without dry-docking shall be specified), and that the coating will remain effective within the specified period (the submitted document shall be agreed upon with the coating manufacturer).
.5	Information on installation of anode protection, instructions on the renewal of the installed anodes in the ship outer hull afloat (the submitted document shall be agreed upon with the coating manufacturer as regards compatibility), if applicable	FI	●		●	
.6	Catholic protection specification as well as its installation scheme (the submitted document shall be agreed upon with the coating manufacturer as regards	FI	●		●	

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
	compatibility), if applicable					

3.2.17.17 POSIMOOR, POSIMOOR-FIX and POSIMOOR-TA

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Calculation of anchoring system, including determination of the number of anchor lines which shall be used in operation of the ships and offshore installations and during emergency situations, as well as of the mass and type of anchor	AG	●		●	
.2	Breaking strength calculation for the anchor line. Material specifications of the anchor line	AG	●		●	
.3	Design and calculation of the anchor and anchor shackle unless they are of a type which has been previously approved	A	●		●	
.4	Design of the anchor line stopper. Material specifications	AG	●		●	
.5	Design of guiding devices of the anchor line. Material specifications	AG	●		●	
.6	Design of chain/rope connections (if any). Type and design of connection of the rope and anchor shackle, if any. Material specifications	AG	●		●	
.7	Foundations and supports of position mooring system	A		●	●	
.8	Layout diagram of anchor lines and special components used as a part of anchor lines and anchor arrangements (buoyancy elements, weights, corrosion protection systems, shock-absorbing inserts, etc.), if any, with preliminary calculation	FI	●		●	
.9	Design of special components used as a part of anchor lines and anchor arrangements (buoyancy elements, weights, corrosion protection systems, shock-absorbing inserts, etc.), if any	A		●	●	
.10	Calculations of special components used as a part of anchor lines and anchor arrangements (buoyancy elements, weights, corrosion protection systems, shock-absorbing inserts, etc.), if any	AG	●		●	

3.2.17.18 CON-M

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Construction Monitoring Plan in accordance with 22.3.2 of Part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"	AG		●	●	

3.2.17.19 LFLFS (Me) или LFLFS (Et) (Low Flashpoint Liquid Fuelled Ship, (Methanol) или (Ethanol)).

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Drawing of fuel tanks arrangement with indication of distance from bottom and side plating to methanol/ethanol fuel tanks	A	●		●	
.2	Drawing of supports and other structures to ensure fastening and limiting shifting of methanol/ethanol fuel tanks	A	●	●	●	
.3	Drawings and diagrams of systems and piping for methanol/ethanol specifying such assemblies as compensators, flange joints, stop and control valves and fittings, drawings of quick-closing arrangements of the fuel system, diagrams of fuel preparation systems	A	●	●	●	At the TD stage — diagrams only
.4	Drawings of safety and vacuum valves of fuel tanks, where available	A		●	●	
.5	Installation drawings of arrangements for measurement of fuel amount and characteristics, and for leakage detection	A		●	●	
.6	Diagrams and calculations of gas-dangerous spaces ventilation	A	●		●	
.7	Diagrams and calculations of gas-freeing system and inert gas system, drawings and calculations of bilge and ballast systems in cargo area, pump rooms, cofferdams, pipe tunnels and hold spaces	A	●		●	
.8	Electrical diagrams for connection of drives and control systems for fuel preparation plants, ventilation of hazardous spaces and airlocks	A	●		●	
.9	Electrical circuit diagrams for measurement and alarm systems for equipment related to the use of methanol/ethanol	A	●		●	
.10	Arrangement drawings of electrical equipment related to the use of methanol/ethanol	A		●	●	
.11	Drawings of cable laying in hazardous and gas-dangerous spaces and areas	A		●	●	
.12	Drawings of earthing for electrical equipment, cables, piping located in gas-dangerous spaces	A		●	●	
.13	Arrangement of hazardous areas diagram specifying the layout of methanol/ethanol storage tanks and any openings in them; spaces for fuel storage and preparation and any openings to them; doors, hatches and any other openings into hazardous spaces and areas; venting pipes and air inlet and outlet locations of a ventilation system of hazardous spaces and areas; doors, scuttles, companions, ventilation duct outlets locations and other openings in spaces adjacent to hazardous area	A	●		●	
.14	Analysis of risks related to the use and storage of methanol/ethanol and possible consequences of its leakages. The analysis shall consider the risks of damage of hull structural members and failure of any equipment after accident related to the	AG	●		●	The results of risk analysis shall be taken into account in the ship's operational documentation

	use of methanol/ethanol					
.15	Diagram of fire-protection water spray system, including piping, valves, nozzles and fittings, as well as diagram of dry powder fire extinguishing system and foam fire extinguishing system, their operating manuals and capacity calculation	A	●		●	
.16	Description and plan of monitoring, control and alarm systems	A	●		●	

3.2.17.20 Open cargo hatch.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Assessment of seaworthiness and ingress of green water, containing, as a minimum, a report with the results of: computational modelling of motions in regular and irregular waves and ingress of green water; model tests of seaworthiness and ingress of green water in the ship model basin (model tests shall comply with 24.4 of part XVII "Distinguishing Marks and Descriptive Notations in the Class Notation Specifying Structural and Operational Particulars of Ships"), documentation of the process of carrying out model experiments shall be accompanied by a video recording to be attached to the report; freeboard calculation	AG	●		●	
.2	Analysis of the conformity of the means for cargo hold bilge dewatering with the requirements of IMO circular MSC/Circ.608/rev.1	AG	●		●	
.3	Stability and damage stability calculations taking into account the possible flooding of cargo holds	AG	●		●	
.4	Calculations of longitudinal and local strength of the hull taking into account the possible flooding of cargo holds	AG	●		●	
.5	Fixed water spray system diagram	A	●		●	
.6	Structural drawings of assemblies and equipment of fixed water spray system	A		●	●	

3.2.17.21 Heavy cargo carrier, Semi-submersible ship.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Diagrams of bilge and ballast systems	A	●		●	
.2	Structural drawings of assemblies and equipment of bilge and ballast systems	A		●	●	
.3	Power supply and control system diagrams of the ballast system	A	●	●	●	
.4	Description of the draught gauging system	AG	●	●	●	
.5	Description of the ballast tanks level gauging system	AG	●	●	●	
.6	Hull members scantlings determination as well as analysis of longitudinal strength and buckling stability of members (for all specified loading conditions of a ship)	AG	●		●	
.7	Preliminary calculation of stability without cargo on the deck, with cargo on the deck as well as during submersion and emersion	AG	●		●	
.8	Damage trim and stability calculations, including righting lever curves	AG	●		●	
.9	Subdivision plan showing all watertight structures and openings with indication of types of closing appliances	AG	●		●	
.10	General arrangement plans of openings in hull, superstructures, deckhouses and subdivision bulkheads, including data on coamings height and type of closing appliances	A	●	●	●	
.11	The Failure Mode and Effect Analysis (FMEA of the ballast system, including its control and monitoring systems	A	●		●	
.12	General arrangement plans of automation equipment in the central ballast control station, diagrams of power supply and cable laying	A	●	●	●	

3.2.17.22 ETW (Effective Tank Washing).

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Cargo tanks arrangement and capacity diagram with indication of distance from the side and bottom shell to the tanks, including information on the materials used and coverings	A	●	●	●	
.2	Effective cargo tank washing system diagram with indication of technical and operational characteristics of the system equipment	A	●		●	
.3	Shadow diagrams of the washing system for each cargo tank (may be included in the system diagram)	A	●		●	
.4	Cargo system diagram	A	●		●	
.5	Technical characteristics of permanently installed and portable washing machines	FI	●		●	

3.2.17.23 Battery system.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Calculation of the capacity of accumulator batteries designed to supply the electrical equipment of electric propulsion plants	AG	●		●	
.2	Analysis of failures regarding supply of electrical equipment and operating capacity of electric propulsion plants	AG	●	●	●	
.3	Information on noxious substances that are contained or may be evolved when using accumulator batteries	FI	●		●	
.4	List of alarms directly related to accumulator batteries and associated shipboard systems, if any	AG	●	●	●	
.5	Substantiation of fire extinguishing system choice	AG	●		●	
.6	Operation manual for accumulator batteries and their control systems	FI	●		●	
.7	Risk analysis (when lithium accumulator batteries are used) containing the following risks of: thermal runaway; internal short circuit; external short circuit; failure of sensors (voltage, temperature, gas sensor, etc.); increase of impedance (of accumulator battery elements, connecting members, etc.); loss of cooling; leakages (electrolyte, cooling system); failure of accumulator battery control system (faults when controlling the circuit breakers, overloads, overdischarge, etc.); external penetration (fire, fluid leak, water for fire fighting, etc.)	AG	●		●	

".

5 **Existing Chapters 3.2, 3.3 and 3.4** and relevant references are deleted.

6 **New Chapter 3.3** is introduced reading as follows:

"3.3 PLAN APPROVAL DOCUMENTATION ON LIFE-SAVING APPLIANCES, SIGNAL MEANS, NAVIGATION BRIDGE, RADIO AND NAVIGATIONAL EQUIPMENT OF SHIP'S

3.3.1 General documentation.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Ship specification	FI	●		●	Polar service temperature shall be indicated (where there is a necessity to survey the ship for compliance with the requirements of the Polar Code). "Radio Equipment" Section of the Specification shall contain the information on the marine areas of ship's navigation and on methods of maintenance of radio equipment under the requirements of Global Maritime Distress and Safety System (GMDSS)
.2	List of spare parts	AG		●	●	

3.3.2 Documentation on life-saving appliances.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Arrangement plan/diagram of: lifeboats and rescue boats; liferafts; marine evacuation systems and their launching appliances; means of embarkation that provide access to survival craft in the water	A	●	●	●	
.2	Drawings of securing of: launching appliances for survival craft and rescue boats, as well as their means of embarkation; hydrostatic release units	A	●	●	●	
.3	Arrangement plan and drawings of securing of personal life-saving appliances	A	●	●	●	
.4	Drawings of securing of survival craft and rescue boats in stowed-for-sea position	A		●	●	
.5	Arrangement plan of survival craft muster and embarkation stations, means of illumination and means of protection from seas, as well as means to prevent any entry of water into the survival craft	A	●		●	
.6	List of life-saving appliances, including their type and technical specifications	A	●		●	The documentation may be submitted together with the drawings required by 3.3.2.1 and 3.3.2.3
.7	Calculations and data proving the compliance with the RS rules	AG	●		●	

3.3.3 Documentation on signal means.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Arrangement plan/diagram of: navigation lights and flashing lights; pyrotechnic and sound signal means	A	●		●	
.2	List of signal means with indication of their principal characteristics	AG	●		●	
.3	Arrangement plan and drawings of securing of signal means	AG		●		
.4	Connection circuits of navigation lights, flashing lights, as well as of electric sound signal means	A	●	●	●	

3.3.4 Documentation on navigation bridge.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Bridge layout drawings showing: bridge layout, including configuration and location of all bridge workstations, including workstations for additional bridge functions, indicating width of passageways, ceiling height, height of deckhead mounted equipment; configuration and dimensions of workstation consoles; chair arrangement at workstations	A	●	●	●	
.2	Drawings of equipment location on navigation bridge (at least two-view drawings) showing: location of all units of radio and navigational and other equipment in workstation consoles; location of all units of radio and navigational and other equipment elsewhere on the navigation bridge; location of all units of radio and navigational equipment outside the navigation bridge functionally associated with it (if any)	A	●	●	●	Moreover, the following shall be indicated (if any): .1 control units (integral or separate) for distress alert transmission; .2 VHF radio installations, including any control units; .3 MF or MF/HF radio installations, including any control units, terminal printing device; .4 satellite radio communication facilities, including printers; .5 receivers providing continuous digital selective calling (DSC) watch on VHF channel 70, on the frequency 2187,5 kHz, as well as HF DSC frequencies; .6 NAVTEX receiver and enhanced group calling (EGC) receiver; .7 ship's and survival craft search and rescue locating devices: ship's and survival craft radar search and rescue transponders (Radar SART), ship's and survival craft automatic identification system (AIS) search and rescue transmitter (AIS-SART); emergency position-indicating radio beacons (EPIRB);

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
						.8 two-way VHF radiotelephone apparatus and chargers; .9 two-way VHF radiotelephone apparatus for communication with aircraft and chargers; .10 emergency lighting supplied from the reserve source of electrical power (GMDSS accumulators); .11 charger for reserve source of electrical power (GMDSS accumulators); .12 ship security alert system and arrangement (button) for its actuation; .13 distribution boards supplying radio and navigational equipment (with protection devices); .14 remote transmission device of magnetic compass; .15 electronic positioning fixing system (EPFS) receiver; .16 sound reception system; .17 log and its repeaters; .18 echo sounder and its repeaters; .19 gyrocompass and its repeaters (for heading indication, for bearing taking); .20 rate-of-turn indicator; .21 AIS equipment with a display; .22 ship's heading/track control system; .23 radars; .24 electronic chart display and information system (ECDIS); .25 equipment of system of long range identification and tracking of ships (LRIT system);

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
						.26 equipment of bridge navigational watch alarm system (BNWAS); .27 voyage data recorder (VDR); .28 indicators of propeller revolutions, the force and direction of thrust, pitch and operational mode of controllable pitch propellers, rudder angle, force and direction of lateral thrust of the thruster.
.3	Fields of vision drawings showing: horizontal fields of vision from various workstations, including the arc of individual blind sectors and the sum of blind sectors created by the cargo, handling equipment and other obstacles outside the wheelhouse that impede the view of the sea surface right ahead (over an arc of 180° from side to side forward of the beam); vertical field of vision over the bow to 10° on either side under the most unfavorable conditions of draught, trim and deck cargo location from the conning position and the navigation and maneuvering workstation, including the lines of sight under the upper edge of the window from standing position for a 1800 mm height of eye with pitching ±5°, and above the lower edge of the window from seated position; view of the ship's side from the navigation bridge wings; 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	A	●	●	●	
.4	List of radio and navigational equipment installed on board the ship with indication of: name; type; manufacturer	AG	●	●	●	At the TD stage, the list shall contain at least the name of the equipment

3.3.5 Documentation on radio and navigational equipment.

No.	Description of documentation	Stamp	TD	DD	PAD	Remarks
.1	Wiring diagram (according to type approval certificates) of radio and navigational equipment with indication of (if applicable): commutation of aerials; diagrams of power supply from main, emergency and reserve sources of electrical power (GMDSS accumulators); automatic circuit breakers; connection of chargers; connection of EPFS receiver (GPS, GLONASS etc.) to VHF/MF/HF radio installations, satellite communication equipment and other navigational equipment; interfacing of gyrocompass/transmitting heading device to other equipment; connection to VDR	A	●	●	●	For the TD stage, block diagrams of radio and navigational equipment connections may be submitted
.2	Antenna arrangement drawing (in three views) with indication of (if any): all transmitting antennas, including location of antenna tuners; all receiving antennas; radar antennas (with indication of antenna rotation radius and vertical patterns, and any other ship structures or cargo (masts, derricks, containers, etc.), which can affect radio waves propagation or impair the radar system performance); satellite communication equipment antennas; EPFS receiver antennas; location of float-free EPIRB; location of the magnetic compass(es); location of fixed and float-free recording mediums (capsules) of VDR; location of microphones of sound reception system	A	●	●	●	
.3	Calculation of the capacity of reserve source of electrical power (accumulators) for supplying of GMDSS radio equipment	AG	●	●	●	For the DD stage — taking into account 3.3.4.4
.4	List of information (data) to be recorded by voyage data recorder (if any) with indication of data sources (equipment, sensors)	AG	●	●	●	

".

7 **Existing Chapter 3.5** is renumbered **3.4**.

4 CLASSIFICATION OF REFRIGERATING PLANTS

8 **Para 4.3.1.1.** The first sentence is replaced by the following text:

"**4.3.1.1** Prior to delivery of a refrigerating plant onboard the ship, documentation with a sufficient scope of information to prove that the requirements of the RS rules for a refrigerating plant are complied with shall be submitted to the Register for review.

In the list specified below, documentation marked with (*) is the documentation, which review results are documented by stamping in accordance with Figs. 8.2-1, 8.2-5 or 8.2-7 (in case of dual classification) of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships. Documentation marked with (**) is the documentation, which review results are documented by stamping in accordance with Figs. 8.2-3 or 8.2-9 (in case of dual classification) of Part II "Technical Documentation" of the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships.".