RULES FOR THE SURVEY AND CONSTRUCTION OF INLAND WATERWAY SHIPS

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF INLAND WATERWAY SHIPS

Rules for the Survey and Construction of Inland Waterway Ships
2023 AMENDMENT NO.1
Guidance for the Survey and Construction of Inland Waterway Ships
2023 AMENDMENT NO.1

Rule No.36 / Notice No.38 30 June 2023
Resolved by Technical Committee on 25 January 2023

ClassNK
NIPPON KAIJI KYOKAI

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

RULES FOR THE SURVEY AND CONSTRUCTION OF INLAND WATERWAY SHIPS

RULES

2023 AMENDMENT NO.1

Rule No.36 30 June 2023

Resolved by Technical Committee on 25 January 2023

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

Rule No.36 30 June 2023
AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF INLAND WATERWAY SHIPS

"Rules for the survey and construction of inland waterway ships" has been partly amended as follows:

Amendment 1-1

Part 1 GENERAL RULES

Chapter 1 GENERAL

1.2 Class Notations

Paragraph 1.2.4 has been amended as follows.

1.2.4 Application of Special Survey Scheme*

1 For ships approved for In-water Surveys in accordance with the provisions of **6.1.2, Part 2**, the notation of "*In Water Survey*" (abbreviated to *IWS*) is affixed to the Classification Characters.

2 The notation "*Propeller Shaft Condition Monitoring System*" (abbreviated to *PSCM*) is affixed to the classification characters of ships whose propeller shafts surveys are carried out based upon the preventive maintenance system specified in the provisions of **8.1.2-1, Part 2**.

3 The notation "*Propeller Shaft Condition Monitoring System of Shaft Kind 1A*" (abbreviated to *PSCM-1A*) is affixed to the classification characters of ships whose propeller shafts surveys are carried out based upon the preventive maintenance system specified in the provisions of **8.1.2-2, Part 2**.

~~**3**~~**4** In consideration of the navigating area and operating mode, ships whose surveys are to be carried out in accordance with standards deemed appropriate by the Society in accordance with the provisions of **1.1.3, Part 2**, a notation deemed appropriate by the Society is affixed.

Part 2 CLASS SURVEYS

Chapter 8 PROPELLER SHAFT AND STERN TUBE SHAFT SURVEYS

8.1 General

Paragraph 8.1.1 has been amended as follows.

8.1.1 ~~Definitions~~Terms

The terms which appear in this chapter are defined as follows.

((1) to (21) are omitted.)

(22) "*Propeller Shaft Condition Monitoring System*" (abbreviated as *PSCM*) is notation affixed to the classification characters of ships provided with shaft Kind 1*B* and whose preventive maintenance system are approved in accordance with the requirements of **8.1.2-1**.

(23) "*Propeller Shaft Condition Monitoring System of Shaft Kind 1A*" (abbreviated as *PSCM-1A*) is notation affixed to the classification characters of ships provided with shaft Kind 1*A* and whose preventive maintenance system are approved in accordance with the requirements of **8.1.2-2**.

(2~~3~~4) "Alternative means" means shafting arrangements such as an approved condition monitoring scheme or other reliable approved means for assessing and monitoring the condition of the shafts, sealing devices and the stern tube lubricant system capable to assure the condition of the propeller shaft assembly with an equivalent level of safety as obtained by survey methods specified in this part.

Paragraph 8.1.2 has been amended as follows.

8.1.2 Preventive Maintenance System of Shafts

1 The notation *PSCM* is affixed to the classification characters of ships equipped with following **(1)** to **(3)** and whose preventive maintenance system are approved in accordance with the procedures specified in **Table 2.8.1-1**.

(1) Oil lubricated stern tube bearing

(2) Stern tube sealing devices can be repaired or replaced without drawing out the shafts

(3) One or more temperature sensors embedded into the metal at the aft end bottoms of stern tube

2 The notation *PSCM-1A* is affixed to the classification characters of ships equipped with the following **(1)** to **(10)** and whose preventive maintenance systems are approved in accordance with the procedures specified in **Table 2.8.1-2**.

(1) Water lubricated stern tube bearings

(2) Inspection methods by means of inspection hole and borescope camera that enable a detailed checking of the surface of the shaft (including the sleave) and bearings while the shaft is fixed without withdrawal of the shafts, or other inspection methods deemed appropriate by the Society.

(3) Stern tube sealing devices can be repaired or replaced without drawing out the shafts

(4) At least two independent lubricating water pumps are to be provided that are capable of continuously supplying lubricating water to the stern tube while the ship is anchoring or mooring. In addition, pump operation is to be capable of automatically switching from one pump to another when either of the following **(a)** or **(b)** is applicable.

(a) A pump in operation stops.

(b) The differential pressure between the suction and discharge or flow rate of lubricating water drops below a preset value.

(5) Filtration systems capable of continuously filtering lubricating water that conform to requirements specified by bearing manufacturers.
(6) Interlock devices that prevent shafts from starting to rotate when the flow rate of lubricating water is not sufficiently established.
(7) Remote monitoring devices for weardown of shaft deemed appropriate by the Society that are capable of the onboard monitoring of such weardown and have redundancy.
(8) Monitoring devices for lubricating water supply systems that activates the alarms listed in **Table 2.8.1-3** at main control stations (as defined in **18.1.2(3)** of **Part D of the Rules for the Survey and Construction of Steel Ships**). However, when there is no main control station, alarms may be activated at locations easily accessible to the crew.
(9) Grounding devices and grounding condition monitoring devices for shafts
(10) Inspection procedures approved by the Society which include the following items
  (a) Procedures for checking the surfaces of shafts (including sleeves) and bearings which include the following **i)** to **iv)**.
    i) Areas and extent to be checked
    ii) Methods and criteria for evaluating the condition of shafts
    iii) Arrangement of inspection holes
    iv) Specifications of borescope camera
  (b) Recommended test procedures to verify the function of the equipment specified in **(4)** to **(9)** above.

Table 2.8.1 has been renumbered to Table 2.8.1-1, and the Title has been amended as follows.

Table 2.8.1-1 Approval Procedure of Preventive Maintenance System for Oil Lubricated Propeller Shafts (*PSCM*)

(Table is omitted.)

Table 2.8.1-2 has been added as follows.

Table 2.8.1-2 Approval Procedure of Preventive Maintenance System for Water Lubricated Propeller Shafts (*PSCM-1A*)

Item	Procedures
1 General	(1) These procedures apply to ships intended for the preventative maintenance of propeller shafts. This system permits shipowners to maintain shafts using preventive measures such as the monitoring of the weardown of shafts, water lubricating systems, grounding conditions between shafts and the hull as well as additionally diagnosing the lubricating conditions of shafts based on monitoring results.
2 Application	(1) The executive management (hereinafter referred to as "management") responsible for adopting the preventive maintenance system according to the procedures is to submit to the Society three copies of a maintenance manual specifying at least the following **(a)** to **(g)**. (a) Management policy for implementing the preventive maintenance system (b) Procedures for monitoring parameters such as the following and recording necessary data i) Weardown of shafts by the remote monitoring devices ii) At least the flow rates and the differential pressures specified in **Table 2.8.1-3** related to the water lubricating systems. iii) Grounding conditions between shafts and the hull, including the monitoring of values for voltage, current, or resistance. (c) Procedures and personnel responsible for controlling the items specified in **(b)** above (d) Procedures and personnel responsible for review and evaluating the monitored values specified in **(b)** above. In addition, the criteria for each parameter mentioned in **4(3)** is to be specified. (e) Procedures and personnel responsible for handling any abnormalities found (including procedures for reporting to the Society) in the monitored values specified in **(b)** above. (f) Procedures and personnel responsible for ensuring that proper maintenance is carried out according to the maintenance manual (g) Plans and documents for equipment or systems related to water lubrication (2) The Society returns two copies of the documents to the applicant after review and approval. Management is to keep one copy of the approved documents on board the ship and the other copy of the approved documents either on hand or at the shipowner's office. (3) The application is to be submitted within 6 *months* from the date of completion of the Classification Survey or the previous Ordinary Survey of the propeller shaft. However, this 6-*month* period may be waived in cases where supplementary documentation confirming the soundness of the propeller shafting system is submitted.
3 Approval and Notation	(1) The Society examines the documents submitted and bases its approval on items such as the management system, the maintenance procedures and the criteria for parameters (including the criteria for alarm and abnormal conditions). The Society assigns approved ships with the notation (*PSCM-1A*) as classification characters.

Table 2.8.1-2 Approval Procedure of Preventive Maintenance System for Water Lubricated Propeller Shafts (*PSCM-1A*) (Continued)

4 Approval Conditions	(1) Management system (a) Management is to state clearly that it will take responsibility for proper implementation of the preventive maintenance of the related parts according to the manual and familiarise the crew concerned with the procedures. (b) Management is to verify that parameters are all within their limits and to take suitable measures as necessary. In addition, management is to report to the Society immediately where any abnormality is found. (c) Management is to verify that suitable maintenance is carried out according to the manual. (d) The items monitored or reviewed according to the manual are to be recorded. (2) Maintenance procedures (a) Weardown measurement is to be carried out regularly at the intervals of 3 *months* or less and the procedures are in accordance with the following. i) In principle, the measurement is to be carried out with the condition that shaft is fixed and the load of the propeller fully on the stern tube bearing at the draft specified by the bearing manufacturer. ii) At least three measurements are to be carried out and the average value is to be treated as the measured value. iii) The estimated remaining operating time to reach the maximum allowable weardown specified by the bearing manufacturer is to be calculated from the measured value. iv) The measured values and estimated values in **ii)** and **iii)** above are to be properly recorded and controlled. (b) In principle, lubricating water pumps are to be operated even when the vessel is anchoring or mooring so as to supply the lubrication water to the stern tube at all times. However, in case where the supply of lubricating water is stopped due to unavoidable reasons, the duration of such times is to be recorded. (c) At least the flow rates and the differential pressures specified in **Table 2.8.1-3** related to the lubricating water supply system are to be continuously monitored, periodically measured, recorded and controlled (at least monthly). (d) The grounding condition between shafts and hull is to be continuously monitored, periodically measured, recorded and controlled (at least monthly). (3) Criteria for parameters Management is to determine the criteria for each parameter for the ship based on reference standards specified by the bearing manufacturer of the maximum allowable weardown, the flow rates and the differential pressures specified in **Table 2.8.1-3**, and the grounding condition between shafts and hull in consideration of management's experience and knowledge.
5 After Approval	(1) Monitoring, measuring and recording are to be performed in accordance with the preventive maintenance system approved by the Society. (2) Records of measurements are to be kept on board so they can be presented to the surveyor at the time of inspection. (3) Arrangement is to be made to replace worn parts such as sleeves and stern tube bearings at an appropriate time before the measured weardown reaches the criteria for the parameters (maximum allowable weardown). The history of these replacements is to be recorded and kept on board so they can be presented to the surveyor at the time of inspection. (4) Where any abnormality or improper maintenance is found through examination, management is required to apply for an Ordinary Survey of the shaft.
6 Cancellation of Approval	(1) Where one of the following **(a)** to **(c)** are applicable, the Society may cancel the ship's approval to adopt the preventive maintenance system for propeller shafts. In such cases, the Society is to notify the ship's management of the cancellation, and the ship is to undergo an Ordinary Survey immediately in accordance with **Table 2.8.2**. (a) Where any improper conduct is found regarding entries in the records. (b) Where it is regarded by the Society that proper maintenance is not carried out according to the approved manual. (c) Where the shipowner or ship management company has changed, or cancellation of the approval to adopt the preventive maintenance system has been requested by the ship's management.

Table 2.8.1-3 has been added as follows.

Table 2.8.1-3 Alarm of lubricating water supply system

Item to be monitored	Alarm type
Flow rate (lubricating water)	Low
Differential pressure (filtration systems) (1)	High
Abnormality (lubricating water pumps)	Abnormal

Note

(1) The items to be monitored for non-filter methods are those deemed appropriate by the Society.

8.2 Surveys of Water Lubricated Shafts

8.2.1 Surveys of Shafts Kind 1*A*

Sub-paragraphs -1 and -2 have been amended as follows.

1 Surveys of shafts Kind 1*A* are to be the Ordinary Surveys specified in **Table 2.8.2** and are to be carried out within 6 *years* from the date of completion (survey due date) of the Classification Survey or the previous Ordinary Survey.

2 In addition to **-1** above, surveys ~~for~~of shafts Kind 1*A* which are used corrosion resistant materials specified in **6.2.7-1(3), Part D of the Rules for the Survey and Construction of Steel Ships** are to be the Partial Surveys specified in **Table 2.8.2** and are to be carried out within 36 *months* from the date of completion (survey due date) of the Classification Survey or the previous Ordinary Survey specified in **-1** above. In cases where the results of the Partial Survey are not satisfactory, the Ordinary Survey specified in **Table 2.8.2** is to be carried out.

3 For the surveys referred to **-1** and **-2** above completed with 3 *months* prior to the survey due date, the next period is to start from the survey due date.

4 The survey due date may be extended in cases where a survey is carried out in accordance with following **(1)** to **(4)** and the shafts condition is confirmed to be satisfactory. The interval of the Ordinary Survey specified in **Table 2.8.2** is not to exceed 7 *years*.

(1) The survey due date may be extended for up to 1 *year* in cases where the 1Year Extension Survey specified in **Table 2.8.2** is carried out. No further extension survey can be carried out.

(2) The survey due date may be extended for up to 3 *months* in cases where the 3Month Extension Survey specified in **Table 2.8.2** is carried out. No further 3Month Extension Survey may be carried out. In the event an additional extension is requested, the survey due date, prior to the previous extension, may be extended for up to 1 *year* in cases where the 1Year Extension Survey specified in **Table 2.8.2** is carried out.

(3) The period of extension counts from the survey due date in cases where the extension survey is carried out within 1 *month* within the survey due date.

(4) The period of extension counts from the date on which the extension survey in cases where the extension survey is carried out more than 1 *month* prior to the survey due date.

8.2.2 Surveys of Shafts Kind 2

1 Surveys of shafts Kind 2 are to be the Ordinary Survey specified in **Table 2.8.2** and are to be carried out in accordance with the following **(1)** and **(2)** periods (survey due dates).

(1) Concurrently with Special Surveys, and

(2) Within 36 *months* from the date of completion of the Classification Survey or the previous

Ordinary Surveys.

2 For the surveys referred to **-1** above completed within 3 *months* prior to the survey due date, the next period is to start from the survey due date.

Paragraph 8.2.3 has been added as follows.

8.2.3 Surveys of Shafts of ships whose classification characters are affixed with the notation *PSCM-1A*

1 Notwithstanding **8.2.1** above, surveys of shafts of ships whose classification characters are affixed with the notation *PSCM-1A* are subject to this paragraph.

2 The surveys are to be the Alternative Ordinary Surveys specified in **Table 2.8.2** and are to be completed within 6 *years* from the date of completion (survey due date) of the Classification Survey or the previous Alternative Ordinary Survey. In cases where a Partial Survey is carried out and the result is not satisfactory, the Ordinary Survey specified in **Table 2.8.2** is to be carried out.

3 Notwithstanding **-2** above, the interval of the Ordinary Survey specified in **Table 2.8.2** above is not to exceed 18 *years*. This interval may be extended for up to 3 *months*. No further extension may be granted.

4 For the surveys referred to **-2** or **-3** above completed within 3 *months* prior to the survey due date, the next period is to start from the survey due date.

5 The survey due date may be extended in cases where a survey is carried out in accordance with the following **(1)** to **(4)**. The interval of the Survey specified in **-2** above is not to exceed 7 *years*.

(1) The survey due date may be extended for up to 1 *year* in cases where the 1Year Extension Survey specified in **Table 2.8.2** is carried out. No further extension survey may be carried out.

(2) The survey due date may be extended for up to 3 *months* in cases where the 3Month Extension Survey specified in **Table 2.8.2** is carried out. No further 3Month Extension Surveys may be carried out. In the event an additional extension is requested, the survey due date, prior to the previous extension, may be extended for up to 1 *year* in cases where the 1Year Extension Survey is carried out.

(3) The period of extension counts from the survey due date in cases where the extension survey is carried out within 1 *month* prior to the survey due date.

(4) The period of extension counts from the date on which the extension survey is carried out in cases where the extension survey is carried out more than 1 *month* prior to the survey due date.

Table 2.8.2 has been amended as follows.

Table 2.8.2 Surveys of Water Lubricated Shafts – Shafts Kind 1*A* ~~and~~, Kind 2 and Shafts of Ships Whose Classification Characters Are Affixed with the Notation *PSCM-1A*

Items	Examinations	Ordinary Survey	Partial Survey	Alternative Ordinary Survey	Extension Survey	
					1Year	3Month
1 Drawing out of the shafts -1 Entirely drawing out	(1) Drawing the propeller shaft and the stern tube shaft and examining the entire shaft (including liners, corrosion protection system and stress reducing features, where provided), inboard seal system and bearings.	○				
-2 Partially drawing out	(1) Drawing the propeller shaft to confirm the contacting parts to stern tube bearing. The propeller shaft may be withdrawn with the condition fitting propeller to propeller shaft.		○			
-3 Alternative drawing out	(1) In accordance with the inspection procedures specified in **8.1.2-2(10)**, the shaft (including seals, liners, corrosion protection system and stress reducing features, were provided.) and bearing surfaces are to be inspected after they have been cleaned to the extent feasible and found to be free from defects without drawing the propeller shafts or stern tube shafts. In the case of shafts with split-sleeve structures (wrapped with rubber, synthetic resin, etc.), the joints between dissimilar materials are to be inspected all the way around.			○		
2 Propeller connections -1 Keyed connections	(1) Removing the propeller to expose the forward end of the taper. (2) Performing a non-destructive examination (*NDE*) to all around the shaft in way of the forward portion of the taper section, including the keyway with the method deemed appropriate by a surveyor. (When shafts are provided with liners, the *NDE* is to be extended to the after edge of the liner.)~~;~~	○		○		
-2 Keyless connections	(1) Removing the propeller to expose the forward end of the taper. (2) Performing a non-destructive examination (*NDE*) to all around the shaft in way of the forward portion of the taper section with the method deemed appropriate by a surveyor. For shafts provided with liners, the *NDE* is to be extended to the after edge of the liner. (3) Notwithstanding **(2)** above, with the interval not to exceed 18 *years*, performing a non-destructive examination (*NDE*) to whole co~~-~~ne parts of shaft including the forward portion of the taper section with the method deemed appropriate by a surveyor.	○		○		
-3 Flanged connections	(1) Whenever the coupling bolts of any type of flange-connected shaft are removed or the flange radius is made accessible in connection with overhaul, repairs or when deemed necessary by a surveyor, performing a non-destructive examination (*NDE*) to the coupling bolts and flange radius with the method deemed appropriate by the surveyor.	○		○		

Table 2.8.2 Surveys of Water Lubricated Shafts – Shafts Kind 1*A* ~~and~~, Kind 2 and Shafts of Ships Whose Classification Characters Are Affixed with the Notation *PSCM-1A* (Continued)

Items	Examinations	Ordinary Survey	Partial Survey	Alternative Ordinary Survey	Extension Survey	
					1Year	3Month
3 Clearance between bush of the stern tube bearing and propeller shaft	(1) Checking and recording the clearance between bush of the stern tube and propeller shaft. (2) Confirm the clearance does not exceed the following values. (a) Shaft diameter no more than 230 *mm*: 6 *mm* (b) Shaft diameter more than 230 *mm* but no more than 305 *mm*: 8 *mm* (c) Shaft diameter more than 305 *mm*: 9.5 *mm*	○	○	○	○	
4 Propeller	(1) Verification that the propeller is free of damages which may cause the propeller to be out of balance. (For extension survey, the information is confirmed by the record etc.) (2) For ordinary surveys, checking propeller fitting condition to shaft. When the propeller shaft with keyless connection is force fitted to the shaft, it is to be ascertained that the pull-up length is within the upper and lower limits given in **7.3.1-1, Part D of the Rules for the Survey and Construction of Steel Ships**.	○	○	○	○	○
5 Sealing device for stern tube	(1) Verification of the satisfactory conditions of inboard seals during the re-installation of the shaft and propeller. (For ordinary surveys, the verification is carried out during the re-installation of the shaft and propeller.)	○	○	○	○	○
6 Shaft and coupling bolts	(1) Examination of shaft and coupling bolts (For extension survey, visual inspection of accessible parts of shaft and coupling bolts.). However, performing a non-destructive examination (*NDE*) to coupling bolts with the method deemed appropriate by a surveyor in cases where the surveyor, based on the results of external examinations, deems such addition examination to be necessary. In addition, anti-corrosion covers are to be removed for shafts Kind 2.	○	○	○	○	○
7 Stern tube bearing	(1) Examination of the stern tube bearings.	○		○*1		
8 Propeller boss surfaces in contact with the propeller shaft taper	(1) Examination of the propeller boss surface.	○		○		
9 Controllable pitch propeller connections (Only applies to shafts with flanged connections)	(1) Open-up examination of the pitch control gear and working parts as well as performing a non-destructive examination (*NDE*) to the propeller blade fixing bolts with the method deemed appropriate by a surveyor.	○		○		
10 Water lubrication lines	(1) Examination of water lubrication lines.	○	○	○	○	○

Table 2.8.2 Surveys of Water Lubricated Shafts – Shafts Kind 1*A* ~~and~~, Kind 2 and Shafts of Ships Whose Classification Characters Are Affixed with the Notation *PSCM-1A* (Continued)

Items	Examinations	Ordinary Survey	Partial Survey	Alternative Ordinary Survey	Extension Survey	
					1Year	3Month
11 Monitoring devices etc. -1 Remote monitoring device for weardown of shaft	(1) Confirm that the values of the weardown obtained from the remote monitoring device is consistent with the measured clearance between bush of the stern tube bearing and propeller shaft as referred in **3** above. (2) Confirm that the functions of the device operate normally in accordance with the inspection procedures specified in **8.1.2-2(10)**.			○	○	○
-2 Others	(1) Confirm that the functions of each equipment operate normally in accordance with the inspection procedures specified in **8.1.2-2(10)**.			○	○	○
1~~1~~2 Review of records etc.	(1) Review of following **(a)** to **(d)**. (a) Previous clearance recording (b) Service records (c) No report to repairs by grinding or welding of shafts or propellers (d) The information of the shafting arrangement is in good working condition by the chief engineer (2) For shafts subjected to Alternative Ordinary Surveys, review documents and records of following **(a)** to **(d)**. (a) Inspection procedures specified in **8.1.2-2(10)** (b) Measurement records of each monitoring parameter specified in **Table 2.8.1-2** and the estimated remaining operating time to reach maximum allowable weardown (c) Records of cleaning of the filtration systems of lubrication water (d) Video records of previous borescope camera inspections			○	○	○

Note

*1 : It is acceptable by confirmation of the result of Section **1-3** of the table.

8.3 Surveys of Oil Lubricated Shafts

Paragraph 8.3.2 has been amended as follows.

8.3.2 Surveys of Shafts of ~~the~~ ships whose classification characters are affixed with the notation *PSCM*

1 Notwithstanding **8.3.1** above, survey of shafts of ships whose classification characters are affixed with the notation *PSCM* are subject to this paragraph.

~~1~~2 The ~~S~~surveys ~~of shafts of ships affixed with the notation *PSCM*~~ are to be the Ordinary Surveys or Partial Surveys specified in **Table 2.8.3** and are to be carried out within 6 *years* from the date of completion (survey due date) of the Classification Survey or the previous Ordinary Survey Surveys. In cases where a Partial Survey is carried out and the result is not satisfactory, Ordinary Survey specified in **Table 2.8.3** is to be carried out.

~~2~~3 Notwithstanding ~~-~~**~~1~~2** above, for shafts with keyless or flanged connections, the Simplified Partial Survey specified in **Table 2.8.3** may be carried out instead of an Ordinary Survey or Partial Survey. In cases where the results of the Simplified Partial Survey is not satisfactory, Ordinary Survey specified in **Table 2.8.3** is to be carried out.

~~3~~4 Notwithstanding ~~-~~**~~2~~3** above, for shafts with keyless connection, the interval of the Ordinary Survey or Partial Survey specified in **Table 2.8.3** above is not to exceed 18 *years*. This interval may be extended for up to 3 *months*. No further extension may be granted. In cases where a Partial Survey is carried out and the result is not satisfactory, the Ordinary Survey specified in **Table 2.8.3** is to be carried out.

~~4~~5 For the surveys referred to ~~-~~**~~1~~2** to ~~-~~**~~3~~4** above completed within 3 *months* prior to the survey due date, the next period is to start from the survey due date.

~~5~~6 The survey due date may be extended in cases where a survey is carried out in accordance with following **(1)** to **(5)**.

((1) to (5) are omitted.)

Title of Table 2.8.3 has been amended as follows.

Table 2.8.3 Surveys of Oil Lubricated Shafts – Shafts Kind 1*B* or Shafts of Ships Whose Classification Characters Are Affixed with the Notation *PSCM*

(Table is omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 1 July 2023.

Amendment 1-2

Part 3 MATERIALS AND WELDING

Chapter 2 WELDING

2.1 Welding

Paragraph 2.1.1 has been amended as follows.

2.1.1 General

Welding of rolled steels for hull is to comply with the requirements in **Chapter 12, Part 1, Part C** and **Part M of the Rules for the Survey and Construction of Steel Ships**.

Part 5 HULL CONSTRUCTION AND EQUIPMENT OF BARGE

Chapter 14 EQUIPMENT

14.1 Anchors, Chain Cables and Ropes

14.1.5 Tow Lines and Mooring Lines*

Sub-paragraph -2 has been amended as follows.

2 The number and strength of mooring lines whose equipment numbers exceed 2,000 are to be in accordance with ~~**Chapter 27,**~~ **14.4.3.2, Part 1, Part C of the Rules for the Survey and Construction of Steel Ships**.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 July 2023.

2. Notwithstanding the amendments to the Rules, the current requirements apply to the following ships:
(1) ships for which the date of contract for construction is before the effective date; or
(2) sister ships of ships subject to the current requirements for which the date of contract for construction is before 1 January 2025.

Amendment 1-3

Part 7 MACHINERY INSTALLATIONS

Chapter 2 RECIPROCATING INTERNAL COMBUSTION ENGINES

2.4 Safety Devices

2.4.3 Protection against Crankcase Explosion*

1 Reciprocating internal combustion engines having a cylinder bore not less than 200 *mm* or a crankcase with a gross volume not less than 0.6 m^3 are to be provided with crankcase explosion relief valves of an approved type for preventing any overpressure in the event of an explosion within the crankcase. Crankcase explosion relief valves are to be in accordance with the following requirements:

((1) to (5) are omitted.)

2 The number and locations of the explosion relief valves specified in **-1** are to be in accordance with **Table 7.2.5**.

(-3 and -4 are omitted.)

Table 7.2.5 has been amended as follows.

Table 7.2.5 Number and Location of Explosion Relief Valves

Cylinder bore (*mm*)	Number and location of explosion relief valves
200 to ~~below~~ 250	At least one valve near each end, but, ~~over 8 crankthrows,~~ an additional valve is to be fitted near the middle of the engine in the case of more than 8 crankthrows.
over 250 to ~~below~~ 300	At least one valve in way of each alternate crankthrow, with a minimum of two valves.
over 300 ~~and over~~	At least one valve in way of each crankthrow.

Chapter 14 AUTOMATIC AND REMOTE CONTROL

14.3 Automatic and Remote Control of Main Propulsion Machinery or Controllable Pitch Propellers

14.3.3 Bridge Control Devices*

Sub-paragraphs (3) and (4) have been amended as follows.

Bridge control devices are to comply with the following **(1)** through **(4)** as well as requirements in **14.3.2**.

((1) and (2) are omitted.)

(3) Bridge control devices are to be provided with visual and audible alarms which give the officer in charge of the navigational watch enough time to assess navigational circumstances in an emergency before the safety systems of main propulsion machinery specified in **14.1.2(14)(b)** or **(c)** go into effect, except in cases in which total failure of main propulsion machinery will occur within a short period of time.

(4) Bridge control devices are to be provided with an override arrangement specified in **14.2.6-3** for the following safety systems of main propulsion machinery:
   (a) Safety systems which perform as specified in **14.1.2(14)(b)**
   (b) Safety systems which perform as specified in **14.1.2(14)(c)** ~~(~~, except in cases ~~where the~~in which total failure of main propulsion machinery will occur within a short period of time.~~)~~

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2023.

2. Notwithstanding the amendments to the Rules, the current requirements apply to ships for which the date of contract for construction is before the effective date.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF INLAND WATERWAY SHIPS

GUIDANCE

2023 AMENDMENT NO.1

Notice No.38 30 June 2023

Resolved by Technical Committee on 25 January 2023

Notice No.38 30 June 2023
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF INLAND WATERWAY SHIPS

“Guidance for the survey and construction of inland waterway ships” has been partly amended as follows:

Amendment 1-1

Part 2 CLASS SURVEYS

Chapter 1 GENERAL

1.1 Surveys

Paragraph 1.1.7 has been amended as follow.

1.1.7 Laid-up Ships

For the commencement of lay-up, the Owner is required to submit the three copies of the ~~A~~application ~~for Lay-up of Ship~~ form (~~**Form 1-1**~~**Form B1-1**) to the Society’s local office.

Form 1-1 has been deleted.

~~Form 1-1~~
~~(Omitted)~~

Part 8 ELECTRICAL INSTALLATIONS

Chapter 2 ELECTRICAL INSTALLATIONS AND SYSTEM DESIGN

2.4 Rotating Machines

2.4.15 Shop Tests

Sub-paragraphs (2), (5) and (7) have been amended as follows.

2 Procedures, etc. for omitting temperature rise tests, overcurrent or excess torque tests, and steady short-circuit tests (hereinafter referred to as "temperature rise tests, etc."), are to comply with the following:

(1) (Omitted)

(2) Application

~~Applications for omission of temperature rise tests, etc.~~ Application form (**APP-TR-OMM-IL**) are to be submitted in duplicate for each manufacturing plant to the Society branch office in charge of the required testing. The branch office is to examine the application and, in those cases where deemed appropriate, stamp one of copies of the submitted application with its seal of acceptance (i.e. the branch office stamp) and then return the stamped copy to the applicant.

(3) (Omitted)

(4) (Omitted)

(5) Individual machine tests

The consent of the party ordering the machines is to be obtained by manufacturer in cases where the omission of temperature rise tests, etc. is permitted for each subsequent unit produced of a machine for which representative machine tests are passed. In addition, the quality control manager is to make a checklist ~~(such as that shown in **Table 8.2.4.15-1**)~~ for each unit so that it is possible to easily confirm that the unit is of the same type as the representative machine. (However, checklist need not be provided when it is clear that the same type is used; for example, in the case of main generators for the same ship in which all required tests are carried out for a single generator, and temperature rise tests, etc. are omitted for the other generators.)

(6) (Omitted)

(7) Checklists

~~The checklist shown in **Table 8.2.4.15-1** is an example of checklist that allows easy confirmation of an individual machine being of the same type as a representative machine in the individual testing of a product.~~ Appropriate checklists (**CL-RM-IL**) are to be prepared by the manufacturer to allow easy confirmation of an individual machine being of the same type as a representative machine during the individual testing of a product after discussion among relevant parties according to the type of the product to be tested ~~with reference made to **Table 8.2.4.15-1**~~. In addition, values for entries with check~~boxes~~list in the "Identical" column only are required to be the same as that of the representative machine, whereas the values for entries with check~~boxes~~list in both the "Identical" and "Almost identical" column may be equal to or less than those of the representative machine.

Table 8.2.4.15-1 has been deleted.

~~Table 8.2.4.15-1 Checklist for Rotating Machines~~
~~(Omitted)~~

2.5 Switchboards, Section Boards and Distribution Boards

2.5.10 Shop Tests

Sub-paragraph -2 has been amended as follows.

2 The procedures for omitting the temperature rise tests specified in **2.5.10, Part 8 of the Rules** are the same as those specified for rotating machines in **2.4.15-2(1) to (7)**; however, the term "rotating machines" is to be read as "switchboards". In addition, the ~~sample~~ checklist given in **2.4.15-2(7)** is to be ~~in accordance with **Table 8.2.5.10-1**~~checklist (**CL-SB-IL)** prepared by the manufacturer.

Table 8.2.5.10-1 has been deleted.

~~Table 8.2.5.10-1 Checklist for Switchboards~~
~~(Omitted)~~

2.8 Controlgears for Motors and Magnetic Brakes

2.8.4 Shop Tests

Sub-paragraph -2 has been amended as follows.

2 The procedure for omitting the temperature rise tests, etc. specified in **2.8.4, Part 8 of the Rules** is the same as that specified for rotating machines in **8.2.4.15-2(1)** to **(7)**; however, the term "rotating machines" is to be read as "controlgears for motors". In addition, the ~~sample~~ checklist given in **8.2.4.15-2(7)** is to be ~~in accordance with **Table 8.2.8.4-1**~~checklist (**CL-ST-IL)** prepared by the manufacturer.

Table 8.2.8.4-1 has been deleted.

~~Table 8.2.8.4-1 Checklist for Starters~~
~~(Omitted)~~

2.10 Transformers for Power and Lighting

2.10.6 Shop Tests

Sub-paragraph -2 has been amended as follows.

2 The procedures for omitting the temperature rise tests specified in **2.10.6, Part 8 of the Rules** are the same as those specified for rotating machines in **2.4.15-2(1)** to **(7)**; however, the term "rotating machines" is to be read as "transformers". In addition, the ~~sample~~ checklist given in

2.4.15-2(7) is to be ~~in accordance with **Table 8.2.10.6-1**~~checklist (**CL-TF-IL**) prepared by the manufacturer.

Table 8.2.10.6-1 has been deleted.

~~Table 8.2.10.6-1 Checklist for Transformers~~
~~(Omitted)~~

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 30 June 2023.

Amendment 1-2

Part 2 CLASS SURVEYS

Chapter 2 CLASSIFICATION SURVEYS

2.3 River Trials and Stability Experiments

2.3.1 River Trials

Sub-paragraph -1(3) has been amended as follows.

1 The Astern test required by **2.3.1-1(1), Part 2 of the Rules** is to be carried out in accordance with the following **(1)** to **(4)** below.
((1) and (2) are omitted.)
(3) For low pressure gas-fuelled dual fuel engines, the confirmation specified in **(2)** is to be carried out for all operating modes (gas mode, diesel mode, etc.). This test is to be carried out at the maximum power available in gas mode (*See* **2.5.1-1(1) in Annex ~~4~~1.1.3-3, Part GF** or **2.5.1-1(1) in Annex ~~4~~16.1.1-3, Part N of the ~~Guidance~~Rules for the Survey and Construction of Steel Ships**).
(4) To high pressure gas-fuelled dual fuel engines, the requirements for low pressure gas-fuelled dual fuel engines specified in **(3)** apply mutatis mutandis.

Sub-paragraph -3(8) has been amended as follows.

3 The performance tests of machinery installations required by **2.3.1-1(3), Part 2 of the Rules** are to include the following **(1)** to **(9)** in order to verify that the machinery installations have sufficient normal functions and reliability and are free from detrimental vibration within the numbers of revolutions used. However, these tests may be dispensed with where such tests have been conducted while the ship was anchored or at dockside. The details of these tests may be found in *JIS F* 0801 “Test Code of Propelling Machinery at Sea Trials” or other documents considered equivalent thereto. The preparations specified in **1.4.2-8** are to be made before tests are carried out.
((1) to (7) are omitted.)
(8) Low pressure (i.e. pressure less than 1 *MPa*) gas-fuelled engines are to comply with the requirements specified in **(1)** and **(5)**. For low pressure gas-fuelled dual-fuel engines, the output tests and governor tests are to be carried out for all operating modes (i.e. the gas mode, diesel mode, etc.). This test is to be carried out at the maximum power available in gas mode (*See* **2.5.1-1(1) in Annex ~~4~~1.1.3-3, Part GF** or **2.5.1-1(1) in Annex ~~4~~16.1.1-3, Part N of the ~~Guidance~~Rules for the Survey and Construction of the Steel Ships**). The 110% load test is not required for the gas mode.
(9) For high pressure gas-fuelled dual fuel engines, the requirements for low pressure gas-fuelled dual fuel engines specified in **(8)** apply mutatis mutandis.

Part 7 MACHINERY INSTALLATIONS

Chapter 2 RECIPROCATING INTERNAL COMBUSTION ENGINES

2.1 General

2.1.1 General

Sub-paragraph -2 has been amended as follows.

2 The wording "the requirements specified otherwise by the Society" in **2.1.1-5, Part 7 of the Rules** means **Annex ~~3~~16.1.1-2 ~~"GUIDANCE FOR HIGH PRESSURE DUAL FUEL ENGINES"~~** or **Annex ~~4~~16.1.1-3 ~~"GUIDANCE FOR LOW PRESSURE DUAL FUEL ENGINES"~~** of **Part N of the Rules for the Survey and Construction of Steel Ships** for gas-fuelled engines to which **Chapter 16, Part N of the Rules** apply, and **Annex ~~3~~1.1.3-2 ~~"GUIDANCE FOR HIGH PRESSURE GAS-FUELLED ENGINES"~~** or **Annex ~~4~~1.1.3-3 ~~"GUIDANCE FOR LOW PRESSURE GAS-FUELLED ENGINES"~~** of **Part GF of the Rules for the Survey and Construction of Steel Ships** for gas-fuelled engines to which **Chapter 16, Part N of the Rules** does not apply (**Part GF of the Rules** apply instead).

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 30 June 2023.
2. Notwithstanding the amendments to the Guidance, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 1-3

Part 2 CLASS SURVEYS

Chapter 8 has been added as follows.

Chapter 8 PROPELLER SHAFT AND STERN TUBE SHAFT SURVEYS

8.1 General

8.1.2 Preventive Maintenance System of Shafts

1 The wording “borescope camera” in **8.1.2-2(2), Part 2 of the Rules** is to be capable of conducting inspections with clear images of 300,000 pixels or more and is to be equipped with a recording function.

2 The wording “Remote monitoring devices for weardown of shaft deemed appropriate by the Society” in **8.1.2-2(7), Part 2 of the Rules** means devices approved by the Society in accordance with **Chapter 1, Part 7 of Guidance for the Approval of Materials and Equipment for Marine Use**.

3 The wording “redundancy” in **8.1.2-2(7), Part 2 of the Rules** may be provided by with having at least one set of spare sensors in cases where the design allows sensors to be replaced without drawing out the shafts and propellers.

4 The wording “Grounding devices” in **8.1.2-2(9), Part 2 of the Rules** for slip rings and brushes are recommended to be made of silver alloy and silver-graphite combinations, respectively.

5 The wording “grounding condition monitoring devices” in **8.1.2-2(9), Part 2 of the Rules** are to be capable of indicating values for voltage, current or resistance.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2023.

Amendment 1-4

Part 4 HULL CONSTRUCTION AND EQUIPMENT OF TUGS AND PUSHERS

Chapter 2 RUDDERS AND STERN FRAMES

2.1 Rudders

2.1.1 Application

Sub-paragraph -1 has been amended as follows.

1 For Mariner-type rudders (*See* **Fig. 4.2.1.1-1**), the scantling of rudders is to be determined in accordance with the requirements in **Chapter ~~3~~13,Part 1, Part C of the Rules for the Survey and Construction of Steel Ships**.

Chapter 10 LONGITUDINAL STRENGTH

10.2 Bending Strength

10.2.3 Calculation of Section Modulus of Transverse Section of Hull

Sub-paragraph -2(1) has been amended as follows.

2 Members included in longitudinal strength
The ratio of inclusion of members effective for longitudinal strength is to be as follows.

(1) All intercostal plates may be included if the fillet welding complies with **~~Note 1 of Table C1.5~~ 12.2.1.3-2, Part 1, Part C of the Rules for the Survey and Construction of Steel Ships**.

((2) to (5) are omitted.)

Paragraph 10.2.4 has been amended as follows.

10.2.4 Loading Manual

For loading manuals required for ships greater than *L* 65 (*m*), the provisions of **~~C34.1.2, Part C of the Guidance~~ 3.8.2, Part 1, Part C of the Rules for the Survey and Construction of Steel Ships** are to be applied.

Part 5 HULL CONSTRUCTION AND EQUIPMENT OF BARGES

Chapter 9 LONGITUDINAL STRENGTH

9.1 Longitudinal Strength

9.1.2 Calculation of Section Modulus of Transverse Section of Hull

Sub-paragraph -2(1) has been amended as follows.

2 Members included in longitudinal strength
The ratio of inclusion of members effective for longitudinal strength is to be as follows.

(1) All intercostal plates may be included if the fillet welding complies with ~~**Note 1** of **Table C1.5**~~**12.2.1.3-2, Part 1, Part C of the Rules for the Survey and Construction of Steel Ships**.

((2) to (6) are omitted.)

Paragraph 9.1.3 has been amended as follows.

9.1.3 Loading Manual

For loading manuals required for ships, the provisions of ~~**C34.1.2, Part C of the Guidance**~~**3.8.2, Part 1, Part C of the Rules for the Survey and Construction of Steel Ships** are to be applied.

EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

1. The effective date of the amendments is 1 July 2023.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to the following ships:
(1) ships for which the date of contract for construction is before the effective date; or
(2) sister ships of ships subject to the current requirements for which the date of contract for construction is before 1 January 2025.

Amendment 1-5

Part 7 MACHINERY INSTALLATIONS

Chapter 14 AUTOMATIC AND REMOTE CONTROL

14.3 Automatic and Remote Control of Main Propulsion Machinery or Controllable Pitch Propellers

14.3.3 Bridge Control Devices

Sub-paragraph -3 has been amended as follows.

3 The following may be considered as examples of those "cases ~~where the~~in which total failure of main propulsion machinery will occur within a short period of time" given in **14.3.3(3)** and **14.3.3(4)(b), Part 7 of the Rules**:
(1) Over-speed
(2) Abrupt pressure drops of lubricating oil to main bearings

EFFECTIVE DATE AND APPLICATION (Amendment 1-5)

1. The effective date of the amendments is 1 July 2023.
2. Notwithstanding the amendments to the Guidance, the current requirements apply to ships for which the date of contract for construction is before the effective date.