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RULES FOR ANTI-FOULING SYSTEMS ON SHIPS

Chapter 1 GENERAL

1.1 General

1.1.1 Application*

1 The Rules for Anti-Fouling Systems on Ships (hereinafter referred to as “the Rules”) apply to systems that are used on ships to control or prevent any attachment of unwanted organisms to those ships classed with NIPPON KAIJI KYOKAI (hereinafter referred to as “the Society”) and intended to be registered as Anti-Fouling Systems on Ships under **Chapter 3 of the Regulations for the Classification and Registry of Ships**.

2 Notwithstanding the provisions of **-1** above, the Rules do not apply to any anti-fouling systems on ships of less than 24 *m* in length.

1.1.2 Equivalency

Anti-fouling systems which do not fully comply with the requirements of the Rules may be accepted provided that they are deemed by the Society to be equivalent to those specified in the Rules.

1.1.3 Definitions

For the purpose of the Rules, the following definitions **(1)** to **(5)** apply:

- (1) “Anti-fouling system” means a coating, paint, surface treatment, surface, or device that is used on a ship to control or prevent attachment of unwanted organisms.
- (2) “The Convention” means the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001.
- (3) “A ship at beginning stage of construction” are those ships complying with the definition specified in **2.1.45, Part A of the Rules for the Survey and Construction of Steel Ships (2.1.52, Part 1 of the Rules for High Speed Craft** for a high speed craft).
- (4) “Change of anti-fouling system” means the entire removal or the removal of any part of existing anti-fouling systems that do not comply with the requirements given in **3.2**; or any changes in the types of such systems on ships.
- (5) “Replacement of anti-fouling system” means the application of any anti-fouling systems which are the same of those which were previously applied and is in compliance with the requirements given in **3.2**.

1.1.4 Installations Character(s)*

Anti-fouling systems on ships complying with those requirements given in **3.2** will be distinguished by the character “*AFS*”. However, in cases where compliant anti-fouling systems are applied on barriers which have covered any existing underlying non-compliant anti-fouling systems in accordance with the provisions of **3.3**, such systems will be distinguished by the characters “*AFS·C*”.

Chapter 2 SURVEYS

2.1 General

2.1.1 Kinds of Surveys

Anti-fouling systems on ships registered or intended to be registered are subject to the following surveys:

- (1) Surveys for registration (hereinafter referred to as Registration Surveys)
 - (a) Registration Surveys during Construction

Registration Surveys carried out upon applications for those surveys submitted prior to any application of anti-fouling systems with respect to those ships to in which anti-fouling systems are to be applied during their Classification Surveys during Construction.
 - (b) Registration Surveys not built under the Survey

Registration Surveys other than those specified in (a) above
- (2) Surveys for maintaining registration (hereinafter referred to as Registration Maintenance Surveys)
 - (a) Periodical Surveys
 - (b) Occasional Surveys
 - (c) Unscheduled Surveys

2.1.2 Time of Surveys*

Time of the Surveys is specified in the following (1) to (4). Surveys specified in (1), (3) and (4) are in general to be carried out in dry docks or on slipways.

- (1) Registration Surveys are to be carried out at the time the application for registration is made.
- (2) Periodical Surveys are to be carried out at the time of Docking Surveys for the Classification (e.g. the time given in [1.1.3-1\(3\) and \(4\), Part B of the Rules for the Survey and Construction of Steel Ships](#)).
- (3) Occasional Surveys are to be carried out at the following occasions at times other than Registration Surveys or Periodical Surveys. To implement the survey, in lieu of the traditional ordinary surveys where a surveyor is in attendance, the Society may approve survey methods which it considers to be appropriate. Periodical Surveys can be substitute for the Occasional Surveys in cases where the causes of carrying out Occasional Surveys are cleared at the Survey.
 - (a) In cases where any anti-fouling systems on ships are changed or replaced
 - (b) In cases where any major conversion affecting anti-fouling systems on ships are carried out
 - (c) In cases where any applications for surveys are submitted by owners
 - (d) Other occasions when Occasional Surveys are considered to be necessary
- (4) The classed ships may be subject to Unscheduled Surveys when the confirmation of the status of the ship by survey is deemed necessary in cases where the Society considers the ship to be subject to [1.4-3 of the Conditions of Service for Classification of Ships and Registration of Installations](#). At Unscheduled Surveys, investigations, examinations or tests are to be made to the satisfaction of the Surveyor with respect to the matters concerned.

2.1.3 Periodical Surveys Carried Out in Advance and Postponement

The requirements for Periodical Surveys carried out in advance are to be in accordance with the provisions relevant to the Periodical Surveys for the Classification (e.g. [1.1.4](#) or [1.1.5, Part B of the Rules for the Survey and Construction of Steel Ships](#)).

2.1.4 Laid-up Ships

1 Laid-up ships are not subject to Periodical Surveys. However, Occasional Surveys may be carried out at the request of owners.

2 When laid-up ships are about to be re-entering service, the following surveys and surveys for specific matters which have been postponed due to being laid-up, if any, are to be carried out.

- (1) If the due dates for Periodical Surveys have not transpired while the ship was laid-up, then an equivalent to the Periodical Surveys specified in [2.4](#) is to be carried out.
- (2) If the due dates for Periodical Surveys have transpired while the ship was laid-up, then the Periodical Surveys specified in [2.4](#) are to be carried out.

2.1.5 Preparation for Surveys and Other Related Issues

1 In cases where ships are to be surveyed in accordance with the Rules, it is the responsibility of the owners to notify Surveyors of the locations where they wish to undergo such surveys. Surveyors are to be advised of surveys a reasonable time in advance so that such surveys can be carried out at proper times.

2 All such preparations as required for registration, periodical and other surveys specified in this Chapter as well as those which may be required by Surveyors in accordance with the provisions in this Chapter are the responsibility of Owners or their representatives.

3 Applicants for surveys are to arrange supervisors who are well conversant with all of the survey items required for the preparation of such surveys who are able to provide all necessary assistance to the Surveyor according to their requests during such surveys.

4 Surveys may be suspended in cases where necessary preparations have not been made, any appropriate supervisor is not present, or the Surveyor considers that the safety for execution of the survey is not ensured.

5 In cases where repairs are considered to be necessary as a result of surveys, the Surveyor notifies his findings to applicants of surveys. These applicants, when they receives such notification, is to obtain the Surveyor's verification after carrying out any necessary repairs.

2.2 Registration Surveys during Construction

2.2.1 General

In Registration Surveys during construction, issues related to anti-fouling systems on ships are to be satisfied with the relevant requirements in the Rules.

2.2.2 Submission of Plans and Documents for Reference*

1 At Registration Surveys during construction, the plans and documents specified in (1) to (3) below are to be submitted to the Society. Copies of them are to be maintained on board.

- (1) Purchase order sheets of anti-fouling systems or receipts for anti-fouling systems issued by manufacturers
- (2) Plans and/or documents showing specifications of anti-fouling systems applied to ships, including plans/documents showing areas where such anti-fouling systems are applied and their procedures, Material Safety Data Sheets (*MSDS*) for those anti-fouling systems applied to ship
- (3) Declaration letter certifying the anti-fouling system used on the ship complying with the requirements in 3.2 issued by the manufacturer, including the Chemical Abstract Service Registry Number (*CAS No.*)

2 For ships of less than 400 *gross tonnage*, declarations signed by owners or their authorized agents and deemed appropriate by the Society are to be carried out on board and their copies are to be submitted to the Society.

3 The plans and documents specified in -1 and -2 above are to be submitted the Society in accordance with (1) to (3) below.

- (1) Where the submission of plans and documents by paper, 2 sets for the Society and necessary sets for returning to the applicant are to be submitted.
- (2) Where the submission of plans and documents electrically, the plans and documents are to be submitted using the systems prepared by the Society.
- (3) Where the submission of plans and documents by means other than (1) and (2) above, the plans and documents are to be submitted by the means deemed appropriate by the Society.

2.2.3 Survey

The survey is in general required at the stages specified in (1) and (2) below. However, it may be modified having after showing regard to the actual status of facilities, technical abilities and quality control at the places of manufacture.

- (1) In cases where materials, paints, etc. manufactured away from the site are being applied to the ship concerned
- (2) Appropriate occasions during or after the works for anti-fouling systems

2.3 Registration Surveys Not Built under the Survey

2.3.1 General*

In the Registration Survey not built under the survey, issues related to the anti-fouling systems on ships as shown in (1) to (3) are to be satisfied with the relevant requirements of the Rules. In cases where deemed necessary by the Society, samplings of coatings such as any existing anti-fouling systems may be required to verify such compliance.

- (1) In cases where those anti-fouling system complying with those requirements given in 3.2 have been applied to ships: the existing anti-fouling system and the system to be newly applied and its application works
- (2) In cases where any anti-fouling systems not complying with those requirements given in 3.2 have been applied to ships and compliant anti-fouling systems are applied to ships after the removal of any non-compliant anti-fouling systems: removal works of the existing non-compliant anti-fouling system and the compliant system to be newly applied and its application works
- (3) In cases where any anti-fouling systems not complying with those requirements given in 3.2 have been applied to ships and compliant anti-fouling systems are applied on barriers which cover any existing non-compliant anti-fouling systems and are applied in accordance with the provisions of 3.3: the barrier and the system to be newly applied and their application works

2.3.2 Submission of Plans and Documents*

1 In the case of 2.3.1(1), the plans and documents specified in (1) to (5) below are to be submitted to the Society. Copies of them are to be maintained on board.

- (1) Purchase order sheets of anti-fouling systems or receipts for anti-fouling systems issued by manufacturers
- (2) Plans and/or documents showing the specifications of any existing anti-fouling systems applied to ships (including any systems previously applied which remain as existing coatings), including plans/documents showing areas where anti-fouling systems are applied and their procedures, Material Safety Data Sheets (*MSDS*) for any anti-fouling systems applied to ships
- (3) Certificates or declaration letters certifying any existing anti-fouling systems used on ships complying with those requirements given in 3.2 issued by manufacturers, including the Chemical Abstract Service Registry Number (*CAS No.*)
- (4) Documents or certificates showing the inauguration of any works relating to existing anti-fouling systems issued by builders and/or contractors
- (5) In cases where anti-fouling systems are newly applied to ships, declaration letters certifying that any anti-fouling systems used on ships comply with those requirements given in 3.2 issued by manufacturers, including the Chemical Abstract Service Registry Number (*CAS No.*), and documents or certificates showing the inauguration of any works relating such anti-fouling systems issued by builders and/or contractors

2 In the case of 2.3.1(2), the plans and documents specified in (1) and (2) below in addition to those listed in -1(1), (4) and (5) above are to be submitted to the Society. Copies of them are to be maintained on board.

- (1) Plans and/or documents showing specifications of works for the removal of any existing anti-fouling systems on ships
- (2) Documents or certificates showing the inauguration of any works for the removal of existing anti-fouling systems issued by builders and/or contractors

3 In the case of 2.3.1(3), the plans and documents specified in (1) to (4) below in addition to those listed in -1(1), (2), (4) and (5) above are to be submitted to the Society. Copies of them are to be maintained on board.

- (1) Purchase order sheets of sealer coats or receipts for sealer coats issued by manufacturers
- (2) Plans and/or documents showing specifications of works for covering all existing anti-fouling systems on ships
- (3) Certificates or declaration letters for sealer coats issued by manufacturers, including the Chemical Abstract Service Registry Number (*CAS No.*)
- (4) Documents or certificates showing the inauguration of any works for covering existing anti-fouling systems on ships issued by builders and/or contractors

4 For ships of less than 400 *gross tonnage*, declarations signed by owners or their authorized agents and deemed appropriate by the Society are to be carried on board and copies are to be submitted to the Society.

2.3.3 Survey*

The survey is in general required at the stages specified in (1) to (3) below. However, it may be modified paying regard to the actual status of facilities, technical abilities and quality control at such places of manufacture.

- (1) In cases where any materials, paints, etc. manufactured away from the site are being applied to the ship concerned

- (2) In cases where any existing non-compliant anti-fouling systems on ships are removed or covered by barriers, appropriate occasions during or after such works for the removal/covering
- (3) In cases where any compliant anti-fouling systems are newly applied to ships, appropriate occasions during or after the works for the anti-fouling system

2.4 Periodical Surveys

2.4.1 General*

1 During Periodical Surveys, management conditions of those plans and documents specified in [2.2.2](#) or [2.3.2](#) as applicable are to be examined. In cases where deemed necessary by the Society, samplings of coatings such as anti-fouling systems may be required to verify such compliance.

2 During any Periodical Surveys carried out at the time of Docking Surveys in dry docks or on slipways, in addition to those items mentioned in [-1](#) above, the conditions of any barriers covering existing anti-fouling systems are to be examined. In cases where deemed necessary by the Society, samplings of coatings such as anti-fouling systems may be required to verify such compliance.

3 Notwithstanding the provisions of [-1](#) and [-2](#) above, Periodical Surveys substituting the Occasional Surveys in accordance with the provisions of [2.1.2\(3\)](#), are to be carried out in accordance with those requirements given in [2.5](#).

2.5 Occasional Surveys

2.5.1 General*

1 In cases where anti-fouling systems are changed or replaced, Occasional Surveys are to be carried out and such anti-fouling systems on ships are to be confirmed as complying with those requirements of the Rules in line with those requirements given in [2.3](#).

2 Notwithstanding the provisions of [-1](#) above, in cases where anti-fouling systems are not changed and all of the plans and documents listed in [2.3.2](#) are submitted to the Society and compliance with the Rules can be confirmed from such plans/documents, on site inspections by Surveyors may be omitted.

3 To implement the survey, in lieu of the traditional ordinary surveys where a surveyor is in attendance, the Society may approve survey methods which it considers to be appropriate.

Chapter 3 ANTI-FOULING SYSTEMS AND BARRIERS

3.1 General

3.1.1 Application

The provisions of this Chapter are applied to the anti-fouling systems of all ships.

3.2 Anti-fouling Systems

3.2.1 General

Anti-fouling systems on ships are to be controlled so as to limit any substances deemed harmful to the marine environment from being used in anti-fouling systems in accordance with those requirements given in [3.2.2](#) and [3.2.3](#).

3.2.2 Organotin Compounds*

Anti-fouling systems on ships are not to use any organotin compounds exceeding the content provided separately by the Society.

3.2.3 Cybutryne*

- 1 Anti-fouling systems containing cybutryne are not to be applied or re-applied.
- 2 Existing anti-fouling systems on ships are not to use cybutryne exceeding levels separately specified by the Society.

3.3 Barriers

3.3.1 General*

In the case of ships using anti-fouling systems containing cybutryne and not complying with [3.2](#) (except [3.2.3-1](#)) as of 1 January 2023, such systems are to be removed or covered by sealer coats deemed appropriate by the Society at the next scheduled change or replacement of the system, but does not take place no later than 60 months following the last application of the anti-fouling system. This, however, does not include the following ships:

- (1) Fixed and floating platforms, FSOs, and FPSOs that are constructed prior to 1 January 2023 and that are not in dry-dock on or after 1 January 2023;
- (2) Ships not engaged in international voyages; and
- (3) Ships of less than 400 *gross tonnage* engaged in international voyages, if accepted by the concerned coastal states.

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GUIDANCE FOR ANTI-FOULING SYSTEMS ON SHIPS

Chapter 1 GENERAL

1.1 General

1.1.1 Application

The “length” referred to in [1.1.1-2 of the Rules](#) is a length as defined in the International Convention on Load Lines, 1966, as modified by the Protocol of 1988 relating thereto, or any successor Convention.

1.1.4 Installations Character(s)

In cases where anti-fouling systems on ships designated by the installations character “*AFS·C*” are changed in accordance with the provisions of [2.5.1-1 of the Rules](#), the installations character is changed to “*AFS*”.

Chapter 2 SURVEYS

2.1 General

2.1.2 Time of Surveys

1 For the application of the Rules, repairs affecting less than 25% of anti-fouling systems need not be considered as changes or replacements of anti-fouling systems. In cases where anti-fouling systems not complying with those requirements given in **3.2 of the Rules** have been applied to ships and covered in accordance with the provisions of **3.3 of the Rules**, the areas of any underlying anti-fouling systems are to be taken as the areas of such anti-fouling systems for any calculations. In any case, any newly applied anti-fouling systems are to comply with those requirements given in **3.2 of the Rules** and plans and documents relevant to any repair work or their copies are to be maintained on board in the same manner as those plans and documents required by the Registry Survey specified in **2.2.2** and **2.3.2 of the Rules**.

2 The wording “the Society may approve the survey methods which it considers to be appropriate.” in **2.1.2(3) of the Rules** means survey methods which the Society considers to be able to obtain information equivalent to that obtained through traditional ordinary surveys where a surveyor is in attendance.

3 Major conversions affecting anti-fouling systems on ships as referred to in **2.1.2(3)(b) of the Rules** are conversions which fall into any of the categories **(1)** to **(3)** given below:

- (1) Conversions affecting any of the principal dimensions of the ship (length, breadth or depth)
- (2) Conversions with considerable changes of hull structures, including replacements and repairs of hull structural members with considerable changes of hull structures
- (3) Conversions other than those listed in **(1)** and **(2)** above, but with considerable modifications of anti-fouling systems

4 For the purpose of the Rules, with respect to ships complying with **3.2** (except **3.2.3-1**) or not using anti-fouling systems containing cybutryne as of 1 January 2023, care is to be taken by responsible persons to ensure that the confirmation of such is obtained no later than 31 December 2024 by submitting the documents specified in **2.3.2-1 of the Rules**.

2.2 Registration Surveys during Construction

2.2.2 Submission of Plans and Documents

A declaration deemed appropriate by the Society referred to in **2.2.2-2 of the Rules** means those declarations prepared according to the model form given in Appendix 2 to Annex 4 of the Convention.

2.3 Registration Surveys Not Built under the Survey

2.3.1 General

1 In cases where deemed necessary by the Society referred to in **2.3.1 of the Rules** means such cases where those plans and/or documents specified in **2.3.2 of the Rules** are found to be unsatisfactory and it is considered necessary that existing coatings are to be examined.

2 With respect to the provisions of **2.3.1 of the Rules**, samplings of coatings are to be carried out in accordance with the following:

- (1) Sample points on hulls are to be selected as per Surveyor direction. In cases where necessary for verification of the overall conditions of the coatings of ships, in general, 9 points from the bottom and both sides in forward, middle and afterward parts are to be taken.
- (2) Samplings of coatings and analysis are to be made by manufacturers or public agents deemed appropriate by the Society referring to the Annex of resolution *MEPC.356(78)*.
- (3) The criteria for the results of such analysis are to be in accordance with those requirements given in **3.2 of the Rules**.

2.3.2 Submission of Plans and Documents

1 In cases where those plans and documents specified in **2.3.2-1 of the Rules** cannot be prepared, it is considered that such anti-

fouling systems on ships do not comply with those requirements given in **3.2 of the Rules**. In such cases, Registration Surveys are to be carried out in accordance with the provisions of **2.3.1(2)** or **(3) of the Rules**.

2 Regarding the preparation of those plans and documents specified in **2.3.2-1(1) of the Rules**, attention is to be paid to any possibilities of change in those areas where such anti-fouling systems were applied.

3 With respect to the provisions of **2.3.2-2** and **-3 of the Rules**, in cases where parts of any existing anti-fouling systems are removed, but any remaining parts are covered by means deemed appropriate by the Society, in addition to those plans and documents specified in **2.3.2-2** and **-3 of the Rules**, additional plans and/or documents clearly showing the removed parts and covered parts are to be submitted to the Society.

4 Declarations deemed appropriate by the Society referred to in **2.3.2-4 of the Rules** means those declarations prepared according to the model form given in Appendix 2 to Annex 4 of the Convention.

2.3.3 Survey

With respect to those provisions of **2.3.3(2) of the Rules** for removal work of existing anti-fouling systems, taking account of the history of paints, it is to be appropriately examined that any anti-fouling systems not complying with the requirements in **3.2 of the Rules** do not remain in the coatings on ships after the completion of such work.

2.4 Periodical Surveys

2.4.1 General

1 In cases where deemed necessary by the Society referred to in **2.4.1-1 of the Rules** means those cases such as where those plans and documents specified in **2.2.2** or **2.3.2 of the Rules** cannot be prepared and in those cases where any evidence of considerable paint work on hulls after previous surveys.

2 In case where deemed necessary by the Society referred to in **2.4.1-2 of the Rules** means cases other than those where it is clear that any barriers or anti-fouling systems applied on barriers remain on hulls.

3 Samplings of coatings as specified in **2.4.1 of the Rules** are to be carried out in accordance with the provisions of **2.3.1-2**.

2.5 Occasional Surveys

2.5.1 General

The wording “the Society may approve the survey methods which it considers to be appropriate.” in **2.5.1-3 of the Rules** means survey methods which the Society considers to be able to obtain information equivalent to that obtained through traditional ordinary surveys where a surveyor is in attendance.

Chapter 3 ANTI-FOULING SYSTEMS AND BARRIERS

3.2 Anti-fouling Systems

3.2.2 Organotin Compounds

Content provided separately by the Society referred to in [3.2.2 of the Rules](#) is to be taken as 2,500 *mg* total tin per *kg* of dry paint.

3.2.3 Cybutryne

The “levels separately specified by the Society” referred to in [3.2.2 of the Rules](#) is to be taken as 1,000 *mg* of cybutryne per *kg* of dry paint in cases where samples are directly taken from the hull, and 200 *mg* of cybutryne per *kg* of dry paint in cases where samples are taken from wet paint containers.

3.3 Barriers

3.3.1 General

1 Sealer coats deemed appropriate by the Society referred to in [3.3.1 of the Rules](#) means those paints recommended by manufacturers to form barriers preventing cybutryne from leaching out of any underlying non-compliant anti-fouling systems.

2 For the purpose of the Rules, colours of barriers are to be selected so that such barriers can be distinguished from any underlying anti-fouling systems and any newly applied anti-fouling systems on such barriers.