ANNEX 20

RESOLUTION MEPC.357(78)
(adopted on 10 June 2022)

2022 GUIDELINES FOR INSPECTION OF ANTI-FOULING SYSTEMS ON SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution,

RECALLING ALSO that the International Conference on the Control of Harmful Anti- fouling Systems for Ships, 2001, held in October 2001, adopted the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001 (the AFS Convention) together with four Conference resolutions,

RECALLING FURTHER that article 11(1) of the AFS Convention prescribes that ships to which this Convention applies may, in any port, shipyard, or offshore terminal of a Party, be inspected by officers authorized by that Party for the purpose of determining whether the ship is in compliance with this Convention,

NOTING that article 3(3) of the AFS Convention prescribes that Parties to this Convention shall apply the requirements of this Convention as may be necessary to ensure that no more favourable treatment is given to ships of non-Parties to this Convention,

NOTING ALSO resolution MEPC.208(62) by which the Committee adopted the 2011 Guidelines for Inspection of Anti-fouling Systems on Ships,

RECALLING FURTHER that at its seventy-sixth session it adopted amendments to the AFS Convention to introduce controls on cybutryne through resolution MEPC.331(76),

RECOGNIZING the need for a consequential revision of the guidelines associated with the AFS Convention due to the aforementioned amendments,

NOTING FURTHER that through resolutions MEPC.358(78) and MEPC.356(78) the Organization adopted *2022 Guidelines for survey and certification of anti-fouling systems on ships* and *2022 Guidelines for brief sampling of anti-fouling systems on ships*, respectively, and

HAVING CONSIDERED a revised text of the *Guidelines for inspection of anti-fouling systems on ships* prepared by the Sub-Committee on Pollution Prevention and Response at its ninth session,

1 ADOPTS the *2022 Guidelines for inspection of anti-fouling systems on ships* (2022 Guidelines), the text of which is set out in the annex to this resolution;

2 INVITES Governments to apply the 2022 Guidelines when exercising port State control inspections;

3 RECOMMENDS that the 2022 Guidelines incorporated in the future revision of resolution A.1155(32) on *Procedures for port State control, 2021*;

4 RECOMMENDS that the Guidelines be reviewed on a regular basis;

5 REVOKES resolution MEPC.208(62).

ANNEX

2022 GUIDELINES FOR INSPECTION OF ANTI-FOULING SYSTEMS ON SHIPS

1 INTRODUCTION

1.1 The right of the port State to conduct inspections of anti-fouling systems on ships is laid down in article 11 of the AFS Convention. The guidelines for conducting these inspections are described below.

1.2 Ships of 400 gross tonnage and above engaged in international voyages (excluding fixed or floating platforms, FSUs and FPSOs) will be required to undergo an initial survey before the ship is put into service or before the International Anti-fouling System Certificate (IAFS) is issued for the first time; and a survey should be carried out when the anti-fouling systems are changed or replaced.

1.3 Ships of 24 metres in length or more but less than 400 gross tonnage engaged in international voyages (excluding fixed or floating platforms, FSUs and FPSOs) will have to carry a Declaration on Anti-fouling Systems signed by the owner or authorized agent. Such declaration shall be accompanied by appropriate documentation (such as a paint receipt or a contractor invoice) or contain appropriate endorsement.

2 INITIAL INSPECTION

2.1 Ships required to carry an IAFS Certificate or Declaration on Anti-Fouling Systems (Parties of the AFS Convention)

2.1.1 The PSCO should check the validity of the IAFS Certificate or Declaration on Anti-Fouling Systems, and the attached Record of Anti-Fouling Systems, if appropriate.

2.1.2 The only practical way to apply paint to the ship's bottom (underwater part) is in a dry dock. This means that the date of application of paint on the IAFS Certificate should be checked by comparing the period of dry-docking with the date on the certificate.

2.1.3 If the paint has been applied during a scheduled dry-dock period, it has to be registered in the ship's logbook. Furthermore, this scheduled dry-docking can be verified by the endorsement date on the (statutory) Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate (SOLAS, regulation I/12(a)(v)) and Passenger Ship Safety Certificate (SOLAS, regulation I/7).

2.1.4 In case of an unscheduled dry-dock period, it could be verified by the registration in the ship's logbook.

2.1.5 It can be additionally verified by the endorsement date on the (Class) Hull Certificate, the dates on the Manufacturer's Declaration or by confirmation of the shipyard.

2.1.6 The IAFS Certificate includes a series of tick boxes indicating for each of the anti-fouling systems, describing the following situations:

.1 if an anti-fouling system controlled under Annex 1 to the AFS Convention has not been applied during or after construction of this ship;

.2 if an anti-fouling system controlled under Annex 1 to the AFS Convention has been applied on this ship previously, but has been removed;

.3 if an anti-fouling system controlled under Annex 1 to the AFS Convention has been applied on this ship previously, but has been covered with a sealer coat;

.4 if an anti-fouling system controlled under Annex 1 of the AFS Convention has been applied on this ship previously, but is not in the external coating layer of the hull or external parts or surfaces on 1 January 2023 (not applicable for organotin); and

.5 if an anti-fouling system controlled under Annex 1 of the AFS Convention was applied on this ship prior to 1 January 2023, but must be removed or covered with a sealer coat no later than 60 months following the last application to the ship of an anti-fouling systems containing cybutryne (not applicable for organotin).

2.1.7 Particular attention should be given to verifying that the survey for issuance of the current IAFS Certificate matches the dry-dock period listed in the ship's log(s)[1] and that only one tick box is marked for each of the substances controlled under Annex 1.

2.1.8 The Record of Anti-Fouling Systems should be attached to the IAFS Certificate and be up to date. The most recent record should agree with the tick box on the front of the IAFS Certificate. The issuing of the IAFS Certificate should be in accordance with regulation 2(3) of Annex 4 of the AFS Convention.

2.2 Ships of non-Parties to the AFS Convention

2.2.1 Ships of non-Parties to the AFS Convention are not entitled to be issued with an IAFS Certificate. Therefore, the PSCO should ask for documentation that contains the same information as in an IAFS Certificate and take this into account in determining compliance with the requirements.

2.2.2 If the existing anti-fouling system is declared not to be controlled under Annex 1 to the Convention, without being documented by an International Anti-Fouling System Certificate, verification should be carried out to confirm that the anti-fouling system complies with the requirements of the Convention. This verification may be based on sampling and/or testing and/or reliable documentation, as deemed necessary, based on experience gained and the existing circumstances. Documentation for verification could be, for example, MSDS (Material Safety Data Sheets), or similar, a declaration of compliance from the anti-fouling system manufacturer, invoices from the shipyard and/or the anti-fouling system manufacturer.

2.2.3 Ships of non-Parties may have Statements of Compliance issued in order to comply with regional requirements, for example, Regulation (EC) 782/2003 as amended by Regulation (EC) 536/2008, which could be considered as providing sufficient evidence of compliance for organotin compounds.

2.2.4 In all other aspects the PSCO should be guided by the procedures for ships required to carry an IAFS Certificate.

[1] This provision, regarding the matching of the survey with the dry-dock period, is not applicable for the survey referred to in operative paragraph 4 of resolution MEPC.331(76).

2.2.5 The PSCO should ensure that no more favourable treatment is applied to ships of non-Parties to the AFS Convention.

3 MORE DETAILED INSPECTION

3.1 Clear grounds

3.1.1 A more detailed inspection may be carried out when there have been clear grounds to believe that the ship does not substantially meet the requirements of the AFS Convention. Clear grounds for a more detailed inspection may be when:

.1 the ship is from a flag of a non-Party to the Convention and there is no AFS documentation;

.2 the ship is from a flag of a Party to the Convention but there is no valid IAFS Certificate;

.3 the painting date shown on the IAFS Certificate does not match the dry-dock period of the ship;

.4 the ship's hull shows excessive patches of different paints; and

.5 the IAFS Certificate is not properly completed.

3.1.2 If the IAFS Certificate is not properly completed, the following questions may be pertinent:

.1 "When was the ship's anti-fouling system last applied?";

.2 "If the anti-fouling system is controlled under Annex 1 to the AFS Convention and was removed, what was the name of the facility and date of the work performed?";

.3 "If the anti-fouling system is controlled under Annex 1 to the AFS Convention and has been covered by a sealer coat, what was the name of the facility and date applied?";

.4 "What is the name of the anti-fouling/sealer products and the manufacturer or distributor for the existing anti-fouling system?"; and

.5 "If the current anti-fouling system was changed from the previous system, what was the type of anti-fouling system and name of the previous manufacturer or distributor?".

3.2 Sampling

3.2.1 A more detailed inspection may include sampling and analysis of the ship's anti-fouling system, if necessary, to establish whether or not the ship complies with the AFS Convention. Such sampling and analysis may involve the use of laboratories and detailed scientific testing procedures.

3.2.2 If sampling is carried out, the time to process the samples cannot be used as a reason to delay the ship.

3.2.3 Any decision to carry out sampling should be subject to practical feasibility or to constraints relating to the safety of persons, the ship or the port (see appendix 1 for sampling procedures; an AFS Inspection Report template for sampling and analysis is attached to the Guidelines).

3.3 Action taken under the AFS Convention

Detention

3.3.1 The port State could decide to detain the ship following detection of deficiencies during an inspection on board.

3.3.2 Detention could be appropriate in any of the following cases:

.1 certification is invalid or missing;

.2 the ship admits it does not comply (thereby removing the need to prove by sampling); and

.3 sampling proves it is non-compliant within the port's jurisdiction.

3.3.3 Further action would depend on whether the problem is with the certification or the anti-fouling system itself.

3.3.4 If there are no facilities in the port of detention to bring the ship into compliance, the port State could allow the ship to sail to another port to bring the anti-fouling system into compliance. This would require an agreement of that port.

Dismissal

3.3.5 The port State could dismiss the ship, meaning that the port State demands that the ship leave port – for example if the ship chooses not to bring the AFS into compliance but the port State is concerned that the ship is leaching tributyltin (TBTs) or cybutryne into its waters.

3.3.6 Dismissal could be appropriate if the ship admits it does not comply or sampling proves it is non-compliant while the ship is still in port. Since this would also be a detainable deficiency the PSCO can detain first and require rectification before release. However, there may not be available facilities for rectification in the port of detention. In this case the port State could allow the ship to sail to another port to bring the anti-fouling system into compliance. This could require the agreement of that port.

3.3.7 Dismissal could be appropriate in any of the following cases:

.1 certification is invalid or missing;

.2 the ship admits it does not comply (thereby removing the need to collect proof by sampling); and

.3 sampling proves that the ship is non-compliant within the port's jurisdiction.

3.3.8 In these cases the ship will probably already have been detained. However, detention does not force the ship to bring the AFS into compliance (only if it wants to depart). In such a situation the port State may be concerned that the ship is leaching TBTs or cybutryne while it remains in its waters.

Exclusion

3.3.9 The port State could decide to exclude the ship to prevent it entering its waters. Exclusion could be appropriate if sampling proves that the ship is non-compliant but the results have been obtained after it has sailed or after it has been dismissed.

3.3.10 Exclusion could be appropriate if sampling proves that the ship is non-compliant but the results have been obtained after it has sailed or after it has been dismissed. Article 11(3) of the AFS Convention only mentions that the "party carrying out the inspection" may take such steps. This means that, if a port State excludes a ship, the exclusion cannot be automatically applied by other port States.

3.3.11 In accordance with the Procedures for Port State Control (resolution A.1155(32), as amended), where deficiencies cannot be remedied at the port of inspection, the PSCO may allow the ship to proceed to another port, subject to any appropriate conditions determined. In such circumstances, the PSCO should ensure that the competent authority of the next port of call and the flag State are notified.

Reporting to the flag State

3.3.12 Article 11(3) of the AFS Convention requires that, when a ship is detained, dismissed or excluded from a port for violation of the Convention, the Party taking such action shall immediately inform the flag Administration of the ship and any recognized organization which has issued a relevant certificate.

4 AFS REPORT TO FLAG STATE IN RESPONSE TO ALLEGED CONTRAVENTIONS

4.1 Article 11(4) of the AFS Convention allows Parties to inspect ships at the request of another Party, if sufficient evidence that the ship is operating or has operated in violation of the Convention is provided. Article 12(2) permits port States conducting the inspection to send the Administration (flag State) of the ship concerned any information and evidence it has that a violation has occurred. Information sent to the flag State is often inadequate for a prosecution. The following paragraphs detail the sort of information needed.

4.2 The report to the authorities of the port or coastal State should include as much as possible the information listed in section 3. The information in the report should be supported by facts which, when considered as a whole, would lead the port or coastal State to believe a contravention had occurred.

4.3 The report should be supplemented by documents such as:

.1 the port State report on deficiencies;

.2 a statement by the PSCO, including their rank and organization, about the suspected non-conforming anti-fouling system. In addition to the information required in section 3, the statement should include the grounds the PSCO had for carrying out a more detailed inspection;

.3 a statement about any sampling of the anti-fouling system including:

.1 the ship's location;

.2 where the sample was taken from the hull, including the vertical distance from the boot topping;

.3 the time of sampling;

.4 person(s) taking the samples; and

.5 receipts identifying the persons having custody and receiving transfer of the samples;

.4 reports of the analyses of any samples including:

.1 the results of the analyses;

.2 the method employed;

.3 reference to or copies of scientific documentation attesting the accuracy and validity of the method employed;

.4 the names of persons performing the analyses and their experience; and

.5 a description of the quality assurance measures of the analyses;

.5 statements of persons questioned;

.6 statements of witnesses;

.7 photographs of the hull and sample areas; and

.8 a copy of the IAFS Certificate, including copies of relevant pages of the Record of Anti-fouling Systems, logbooks, MSDS or similar, declaration of compliance from the anti-fouling system manufacturer, invoices from the shipyard and other dry dock records pertaining to the anti-fouling system.

4.4 All observations, photographs and documentation should be supported by a signed verification of their authenticity. All certifications, authentications or verifications should be in accordance with the laws of the State preparing them. All statements should be signed and dated by the person making them, with their name printed clearly above or below the signature.

4.5 The reports referred to under paragraphs 2 and 3 of this section should be sent to the flag State. If the coastal State observing the contravention and the port State carrying out the investigation on board are not the same, the port State carrying out the investigation should also send a copy of its findings to the coastal State.

APPENDIX 1

SAMPLING

Considerations related to brief sampling may be found in section 2.1 of the *Guidelines for brief sampling of anti-fouling systems on ships* (resolution MEPC.356(78)).

Any obligation to take a sample should be subject to practical feasibility or to constraints relating to the safety of persons, the ship or the port.

The PSCO should consider the following:

- liaise with the ship on the location and time needed to take samples; the PSCO should verify that the time required will not unduly prevent the loading/unloading, movement or departure of the ship;

- do not expect the ship to arrange safe access but liaise with the ship over the arrangements that the port State competent authority has made, for example boat, cherry picker, staging;

- select sampling points covering representative areas;

- take photographs of the hull, sample areas and sampling process;

- avoid making judgements on the quality of the paint (e.g. surface, condition, thickness, application);

- the need of inviting the ship representative's presence during brief sampling to ensure that the evidence is legally obtained;

- complete and sign the inspection report form together with the included sampling record sheets (to be filled in by the sampler), as far as possible, and leave a copy with the ship as a proof of inspection/sampling;

- inform the next port State where the inspected ship is to call;

- agree with or advise the ship on to whom the ship's copy of the finalized inspection report will be sent in cases when it cannot be completed in the course of the inspection; and

- ensure that receipts identifying the persons having custody and receiving transfer of the samples accompany the samples are filled in to reflect the transfer chain of the samples. PSCOs are reminded that the procedures set in national legislation regarding custody of evidence are not affected by the regulation. These guidelines therefore do not address this issue in detail.

1 Sampling methodologies

It is at the discretion of the port State to choose the sampling methodology. The *Guidelines for brief sampling of anti-fouling systems on ships* adopted by resolution MEPC.356(78) allow that any other scientifically recognized method of sampling and analysis of AFS controlled under the Convention than those described in the appendix to the Guidelines may be used (subject to the satisfaction of the Administration or the port State). The sampling methodology will depend, inter alia, on the surface hardness of the paint, which may vary considerably. The amount of paint mass removed may vary correspondingly.

Based on the onboard International Anti-fouling System Certificate or a Declaration on Anti-fouling System, the port State competent authority would decide if the brief sampling analysis should focus on only organotin, cybutryne or both and apply the appropriate methodology including the number of samples, analysis, and definition of compliance.

Sampling procedures, based on the removal of paint material from the hull, require the determination of paint mass. It is important that procedures used are validated, produce unambiguous results and contain an adequate control.

The competent port State authority can decide to contract specialist companies to carry out sampling. In this case the PSCO should attend the ship during the sampling procedure to ensure the liaison and arrangements mentioned above are in place.

If a specialist company is not used, the port State competent authority should provide appropriate training to the PSCO in the available sampling methods and procedures and ensure that agreed procedures are followed.

The following general terms should be observed:

- the PSCO should choose a number of sample points preferably covering all the representative areas of the hull, but it is desirable to have at least eight (8) sample points equally spaced down and over the length of the hull, if possible divided over PS and SB (keeping in mind that different parts of the hull may be treated with different anti-fouling systems);

- triplicate specimens of paint at each sampling point should be taken in close proximity to each other on the hull (e.g. within 10 cm of each other);

- contamination of the samples should be avoided, which normally includes the wearing of non-sterilized non-powdered disposable gloves of suitable impervious material – e.g. nitrile rubber;

- the samples should be collected and stored in an inert container (e.g. containers should not consist of materials containing organotins and cybutryne or have the capacity to absorb organotins and cybutryne);

- samples should be taken from an area where the surface of the anti-fouling system is intact, clean and free of fouling;

- loose paint chips coming from detached, peeled or blistered hull areas should not be used for sampling;

- samples should not be taken from a heated or area where the paint is otherwise softened (e.g. heavy fuel tanks);

- the underlying layers (primers, sealers, TBT containing AFS) should not be sampled if there is no clear evidence of exposure of extended areas; and

- ships bearing an anti-fouling system that does not contain cybutryne in the external coating layer are not required to be controlled under Annex 1 of the Convention. Such ships carrying an IAFS Certificate indicating the situation described in paragraph 2.1.6.4 of these Guidelines should be deemed compliant with the Convention except if there is a doubt on the validity of the IAFS Certificate.

2 Validity of the sampling

In order to safeguard the validity of the sampling as evidence of non-compliance, the following should be considered:

- only samples taken directly from the hull and free of possible contamination should be used;

- all samples should be stored in containers, marked and annotated on the record sheet. This record sheet should be submitted to the Administration;

- the receipts identifying the persons having custody and receiving transfer of the samples should be filled in and accompany the samples to reflect the transfer chain of the samples;

- the PSCO should verify the validity of the instrument's calibration validity date (according to the manufacturer instruction);

- in cases when a contracted specialist company is used for carrying out sampling, the PSCO should accompany its representative to verify sampling; and

- photographs of the hull, sample areas and sampling process could serve as additional proof.

It is also the case that sampling companies and/or procedures can be certified.

3 Health and safety when sampling

Any obligation to take a sample should be subject to practical feasibility or any constraints relating to the safety of persons, the ship or the port.

The PSCO is advised to ensure their safety taking the following points into account:

- general requirements enforced by the terminal or port authority and national health, safety and environmental policy;

- condition of the ship (ballast condition, ship's operations, mooring, anchorage, etc.);

- surroundings (position of ship, traffic, ships movement, quay operations, barges or other floating vessels alongside);

- safety measures for the use of access equipment (platforms, cherry picker, staging, ladders, railings, climbing harness, etc.), e.g. ISO 18001;

- weather (sea state, wind, rain, temperature, etc.); and

- precautions to avoid falling into the water between the quay and the ship. If in doubt, a lifejacket and if possible a safety line should be worn when sampling.

Any adverse situation encountered during sampling that could endanger the safety of personnel shall be reported to the safety coordinator.

Care should be taken to avoid contact of the removed paint with the skin and the eyes, and no particles should be swallowed or come into contact with foodstuffs. Eating or drinking during sampling is prohibited and hands should be cleaned afterwards. Persons carrying out sampling should be aware that the AFS and solvents or other materials used for sampling may be harmful and appropriate precautions should be taken. Personal protection should be considered by using long sleeve solvent-resistant gloves, dust mask, safety glasses, etc.

Standard (and specific, if applicable) laboratory safety procedures should be followed at all times when undertaking the sampling procedures and subsequent analysis.

4 Conducting analyses

The *Guidelines for brief sampling of anti-fouling systems on ships* envisage a two-stage analysis for organotin analysis for both methods presented in the appendix to the Guidelines. The first stage is a basic test, which can be carried out on site as in the case of Method 2. The second stage is carried out when the first stage results are positive. It is noted that in the IMO Guidelines these stages are referred to as Steps 1 and 2 as in the case of Method 1. It is at the discretion of the port State competent authorities to choose which analysis methods are used.

The method for cybutryne determination is based on a one-step analysis.

The following points are presented for port State consideration:

- approval procedure for the recognition of laboratories meeting ISO 17025 standards or other appropriate facilities should be set up by the port State competent authorities. These procedures should define the recognition criteria. Exchange of information between port States on these procedures, criteria and laboratories/facilities would be beneficial, i.e. for the purposes of exchange of best practices and possible cross-border recognition and provision of services;

- the company that undertakes the analysis and/or samples should comply with national regulations and be independent from paint manufacturers;

- the PSCO carrying out the AFS inspection of a ship should verify the validity of the ISO 17025 certificate and/or the recognition of the laboratory;

- if more time is needed for analysis than available considering the ship's scheduled time of departure, the PSCO shall inform the ship and report the situation to the port State competent authority. However, the time needed for analysis does not warrant undue delay of the ship; and

- PSCOs should ensure completion of the record sheets for the sampling procedure as proof of analysis. In cases when the laboratory procedures prescribe presentation of the analyses' results in a different format, this technical report could be added to the record sheets.

5 The first-stage analysis for organotin

The first-stage analysis serves to detect the total amount of tin in the AFS applied.

It is at the discretion of the port State competent authority to choose the first-stage analysis methodology. However, the use of a portable X-ray fluorescence analyser (mentioned under

Method 2) or any other scientifically justified method allowing the conduction of first-stage analyses on site could be considered best practice.

The port State competent authority has to decide whether the first-stage analysis should be carried out by PSCOs or by contracted companies.

The port State competent authority could provide PSCOs with this equipment (e.g. portable X-ray fluorescence analyser) and provide the appropriate training.

6 The second-stage analysis for organotin

The second-stage (final) analysis is used to verify whether or not the AFS system complies with the Convention requirements, i.e. whether organotin compounds are present in the AFS at a level which would act as a biocide.

The port State could consider implementing only a second-stage analysis.

It is at the discretion of the Authority to choose the second-stage analysis methodology. In this respect it is hereby noted that the second-stage analysis methodology for sampling Method 2 provided in the Guidelines is only tentative and "should be thoroughly reviewed by experts based on scientific evidence" (section 5.1 of Method 2).

7 One-stage analysis for cybutryne

For cybutryne a one-stage analysis is described in both Method 1 and Method 2 of the brief sampling guidelines. The specimens are to be analysed in a GC-MS analysis. The procedure is the same for both methods.

8 One-stage analysis for cybutryne and organotin

For cybutryne and organotin a one-stage analysis is described in both Method 1 and Method 2 of the brief sampling guidelines. The specimens are to be analysed in a GC-MS analysis.

9 Conclusions on compliance

The Authority should only make conclusions on compliance based on the second-stage analysis of the sample (organotin). In case the results indicate non-compliance at that stage, there are clear grounds to take further steps.

For cybutryne the authority could make conclusions on compliance based on the one-stage analysis.

If considered necessary, more thorough sampling can be also carried out in addition or instead of brief sampling.

Sampling results should be communicated as soon as possible to the ship (as part of the inspection report) and in the case of non-compliance also to the flag State and recognized organization acting on behalf of the flag State if relevant.

Authorities should, in accordance with section 5.2 of the *Guidelines for brief sampling of anti-fouling systems on ships*, develop and adopt procedures to be followed for those cases where compliance with acceptable limits or lack thereof is unclear, considering additional sampling or other methodologies for sampling.

FORM S/1

REPORT OF INSPECTION OF A SHIP'S ANTI-FOULING SYSTEM (AFS)

SHIP PARTICULARS

1. Name of ship: **2. IMO number:**

3. Type of ship: **4. Call sign:**

5. Flag of ship: **6. Gross tonnage:**

7. Date keel laid / major conversion commenced:

INSPECTION PARTICULARS

8. Date & time:

9. Name of facility:
(dry dock, quay, location)

Place & country:

10. Areas inspected ☐Ship's logbook ☐Certificates ☐Ship's hull

11. Relevant certificate(s)

	(a) title	(b) issuing authority	(c) dates of issue
1.	*IAFS Certificate*		
2.	*Record of AFS*		
3.	*Declaration of AFS*		
4.			

12. Dry-dock period AFS applied:

13. Name of facility AFS applied:

14. Place & country AFS applied:

15. AFS samples taken ☐No ☐Yes Nature of sampling: ☐Brief ☐Extent

16. Reason for sampling of AFS:

17. Record sheet attached :
(country-code / IMO number / dd-mm-yy)

18. Copy to: ☐ PSCO ☐ Flag State ☐ Recognized organization
☐ Head office ☐ Master ☐ Other:

PORT STATE PARTICULARS

Reporting authority: _____ District office _____

Address: _____

_____

Telephone/Fax/Mobile: _____

E-mail: _____

Name:
(duly authorized inspector of reporting authority) _____

Date: _____ Signature: _____

FORM S/2

RECORD SHEET FOR THE SAMPLING PROCEDURE FOR COMPLIANCE WITH THE CONVENTION IN TERMS OF THE PRESENCE OF ORGANOTIN AND/OR CYBUTRYNE ACTING AS A BIOCIDE IN ANTI-FOULING SYSTEMS ON SHIP HULLS

RECORD NUMBER		(country-code / IMO number / dd-mm-yy)

Name of ship _____ IMO number: _____

SAMPLING PARTICULARS

1.	**Date & time initiated:**		**2.**	**Date & time completed**
3.	**Name of paint manufacturer:**			
4.	**AFS product name & colour:**			
5.	**Reason for sampling:**	☐ **Port State control**	☐ **Survey & certification**	☐ **Other flag State compliance inspection**
6.	**Sampling method**			
7.	**Hull areas sampled:**	☐ Port side	☐ Starboard side	☐ Bottom
	Number of sampling points:			
8.	**Back-up samples' storage location:** *(e.g. port State inspection office)*			
9.	☐ **Photos taken of the sample points**		Comments:	
10.	☐ **Paint samples (wet)**		Comments:	
11.	**Case A - Analysis of organotin only**			
	☐ First-stage analysis for organotin		Comments:	
	☐ Second-stage analysis for organotin		Comments:	
12.	**Case B - Analysis of cybutryne only**		Comments:	
	One-stage analysis for cybutryne			
13.	**Case C - Simplified approach to detect organotin and cybutryne**			
	One-stage analysis for organotin and cybutryne			
14.	**Comments concerning sampling procedure**			
15.	**Sampling company**		**Name**	
			Date	
			Signature	

PORT STATE PARTICULARS

Reporting authority: _____ **District office:** _____

Address: _____

_____

Telephone/Fax/ Mobile: _____

E-mail: _____

Name:
(duly authorized inspector of reporting authority) _____

Date: **Signature:**

FORM S/3

RECORD NUMBER	

Name of ship _____ IMO number: _____

METHOD 1 ANALYSIS

Case A - Analysis of organotin only

1.	**Instrument I.D.:**			**Calibration expire date:**		
2.	**Specimens 'A'** results			Total number of specimens 'A' analysed:		
3.	**No.**	**Sample location** *(frame & distance from boot topping)*	**mg Sn/kg**	**No.**	**Sample location** *(frame & distance from boot topping)*	**mg Sn/kg**
	1			**9**		
	2			**10**		
	3			**11**		
	4			**12**		
	5			**13**		
	6			**14**		
	7			**15**		
	8			**16**		
4.	**Results** Number of specimens exceeding 2,500 mg/kg: 1 or more specimens exceeding 3,000 mg/kg ☐ Yes ☐ No				☐Step 2 required ☐Compliance, no further analysis	
5.	**Additional comments concerning analysis of results from Specimens 'A'**					
6.	**Company**			**Name:** **Date:** **Signature:**		

7.	**Instrument I.D.:**				**Calibration expire date:**			
8.	**Specimens 'B'** results				Total number of specimens "B" analysed:			
9.	**No.**	**organotin** (mg Sn/kg) as Sn	**No.**	**organotin** (mg Sn/kg) as Sn	**No.**	**organotin** (mg Sn/kg) as Sn	**No.**	**organotin** (mg Sn/kg) as Sn
	1		**5**		**9**		**13**	
	2		**6**		**10**		**14**	
	3		**7**		**11**		**15**	
	4		**8**		**12**		**16**	
10.	**Results** Number of specimens exceeding 2,500 mg/kg: 1 or more specimens exceeding 3,000 mg/kg ☐ Yes ☐ No						☐Non-compliance assumed ☐Compliance assumed	
11.	**Additional comments concerning analysis of results from Specimens 'B'**							
12.	**Company**				**Name:** **Date:** **Signature:**			

Case B - Analysis of cybutryne only

Gas chromatography/mass spectrophotometry (GC/MS) analysis

1.	**Instrument I.D.:**		**Calibration expire date:**	
2.	**Specimens 'C'** results			
	Total number of specimens 'C' analysed by GC-MS:			
	Average concentration of cybutryne (mg of cybutryne per kg of dry paint):			
3.	**Conclusions** The average concentration of cybutryne exceeds the threshold of 1,250 mg of cybutryne per kg of dry paint			☐ Yes ☐ No. Compliance assumed.
4.	**Additional comments concerning analysis of results from Specimens 'C'**			
5.	**Company**		**Name:** **Date:** **Signature:**	

Case C - Simplified approach to detect organotin and cybutryne

Gas chromatography/mass spectrophotometry (GC/MS) analysis

1.	**Instrument I.D.:**		**Calibration expire date:**	
2.	**Specimens 'C'** results			
	Total number of specimens 'C' analysed by GC-MS:			
	Average concentration of organotin (mg Sn/kg of dry paint)			
	Average concentration of cybutryne (mg of cybutryne per kg of dry paint):			
3.	**Conclusions**			
	The average concentration of organotin exceeds the threshold of 3,000 mg Sn per kg of dry paint		☐ Yes ☐ No. Compliance assumed.	
	The average concentration of cybutryne exceeds the threshold of 1,250 mg of cybutryne per kg of dry paint		☐ Yes ☐ No. Compliance assumed.	
4.	**Additional comments concerning analysis of results from Specimens 'C'**			
5.	**Company**		**Name:** **Date:** **Signature:**	

FORM S/4

RECORD NUMBER	

Name of ship _____ IMO number: _____

METHOD 2 ANALYSIS

Case A - Analysis of organotin only

First stage

1.	**Instrument I.D.:**	**Calibration expire date:**

2.	**Sample location** (frame & distance from boot topping)	**Specimen I.D.**	**Sample disc**	**Content of tin (mg/ kg)**	**max**	**min**	**Average**
A		A1	☐ abrasive				
		A2	☐ metal				
		A3	☐ others				Average
		A4	☐ abrasive				
		A5	☐ metal				mg/kg
		A6	☐ others				☐>2,500 mg/kg
		A7	☐ abrasive				☐>3,000 mg/kg
		A8	☐ metal				
		A9	☐ others				
B		B1	☐ abrasive				
		B2	☐ metal				
		B3	☐ others				Average
		B4	☐ abrasive				
		B5	☐ metal				mg/kg
		B6	☐ others				☐>2,500 mg/kg
		B7	☐ abrasive				☐>3,000 mg/kg
		B8	☐ metal				
		B9	☐ others				
C		C1	☐ abrasive				
		C2	☐ metal				
		C3	☐ others				Average
		C4	☐ abrasive				
		C5	☐ metal				mg/kg
		C6	☐ others				☐>2,500 mg/kg
		C7	☐ abrasive				☐>3,000 mg/kg
		C8	☐ metal				
		C9	☐ others				
D		D1	☐ abrasive				
		D2	☐ metal				
		D3	☐ others				Average
		D4	☐ abrasive				
		D5	☐ metal				mg/kg

		D6	☐ others				☐>2,500 mg/kg
		D7	☐ abrasive				☐>3,000 mg/kg
		D8	☐ metal				
		D9	☐ others				
3.	**Results first-stage analysis** ☐ ____ samples out of ____ are above 2,500 mg/kg ☐ sample(s) ____ is (are) above 3,000 mg/kg					☐Compliant ☐Second stage required	
4.	**Comments**						
5.	**Company**		Name Date Signature				

Second stage

1.	**Instrument I.D.:**	**Calibration expire date:**

2.	**Specimen used** *(Specimen I.D.)*	**Content of tin first stage** *(XRF analysis) (mg Sn/kg)*	**Content of tin second stage** *(as organotin) (mg Sn/kg)*	**Compliance**
A				
				☐>2,500 mg/kg
				☐>3,000 mg/kg
B				
				☐>2,500 mg/kg
				☐>3,000 mg/kg
C				
				☐>2,500 mg/kg
				☐>3,000 mg/kg
D				
				☐>2,500 mg/kg
				☐>3,000 mg/kg
3.	**Results second stage analysis** ☐ ____ samples out of ____ are above 2,500 mg/kg (dry paint) ☐sample(s) ____ is (are) above 3,000 mg/kg (dry paint)		☐ Compliant ☐ Not compliant	
4.	**Comments**			
5.	**Company**	Name Date Signature		

Case B – Analysis of cybutryne only

Gas chromatography/mass spectrophotometry (GC/MS) analysis for cybutryne determination

1.	**Instrument I.D.:**	**Calibration expire date:**

2.	**Results of GC-MS analysis**		
	Average concentration (mg of cybutryne per kg of dry paint)		☐ Compliant ☐ Not compliant
3.	**Comments**		
4.	**Company**	Name Date	

Case C – Simplified approach to detect organotin and cybutryne

Gas chromatography/mass spectrophotometry (GC/MS) analysis for cybutryne and organotin determination

1.	**Instrument I.D.:**	**Calibration expire date:**

2.	**Results of GC-MS analysis**		
	Average concentration of organotin (mg Sn/kg)		☐ Compliant ☐ Not compliant
	Average concentration of cybutryne (mg of cybutryne per kg of dry paint)		☐ Compliant ☐ Not compliant
3.	**Comments**		
4.	**Company**	Name Date	

PORT STATE PARTICULARS

Reporting authority: District office:

Address: _____

_____

Telephone/Fax/Mobile: _____

E-mail: _____

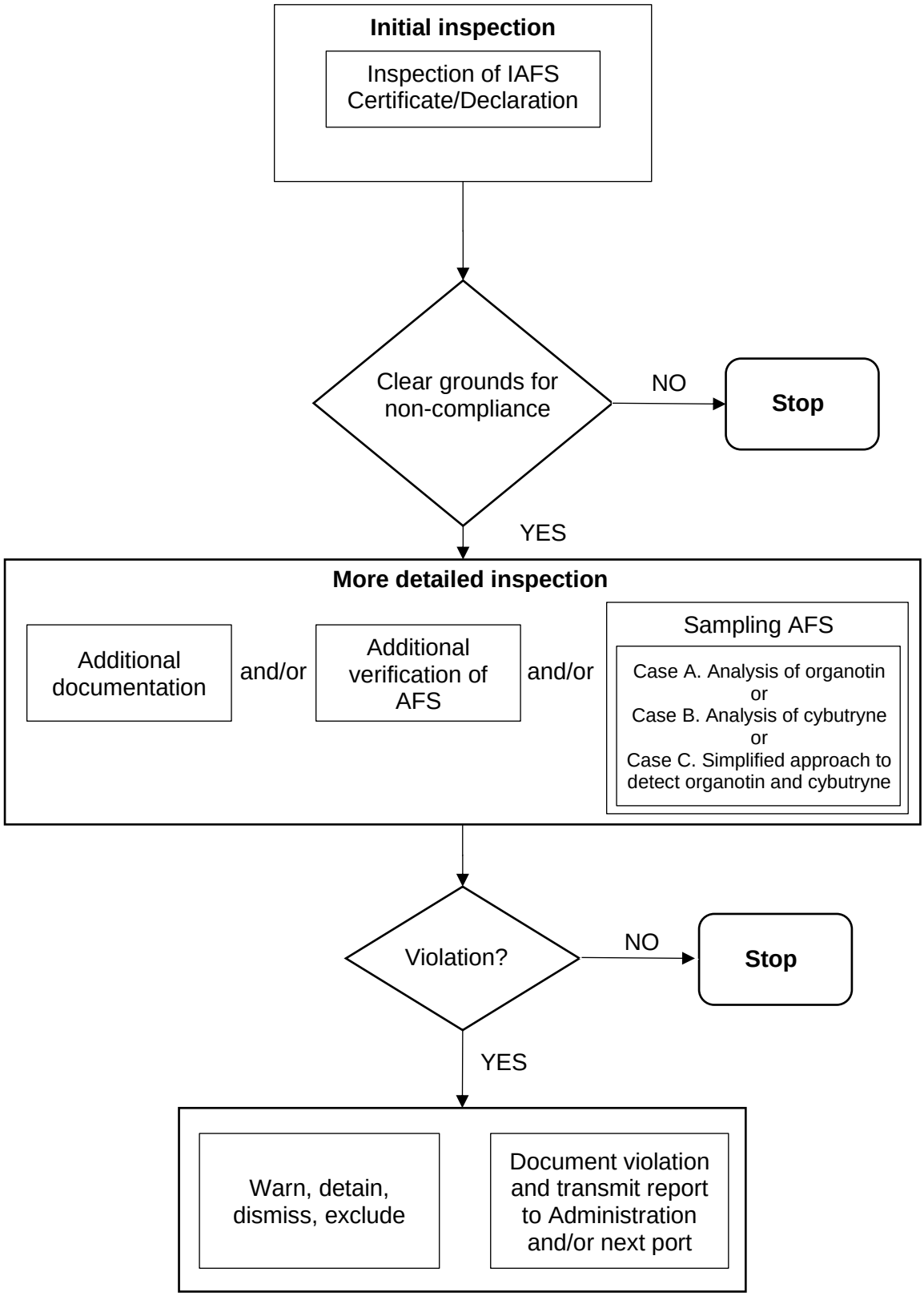
Name: _____

(duly authorized inspector of reporting authority) _____

Date: _____ Signature: _____

APPENDIX 2

AFS INSPECTION PROCESS



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