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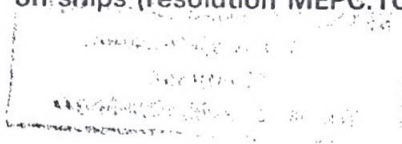


Anti-Fouling Systems

International Convention on the Control of Harmful
Anti-Fouling Systems on Ships, 2001 (AFS 2001)

and

Guidelines for survey and certification of anti-fouling
systems on ships (resolution MEPC.102(48)),
Guidelines for brief sampling of anti-fouling systems
on ships (resolution MEPC.104(49)),
and Guidelines for inspection of anti-fouling systems
on ships (resolution MEPC.105(49)).



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Foreword

The harmful effects of anti-fouling systems were considered by the International Maritime Organization's Marine Environment Protection Committee (MEPC) for the first time in 1988, when the Paris Commission requested the MEPC to consider the need for measures to restrict the use of tributyltin (TBT) compounds on seagoing vessels. As a first step, the Committee at its thirtieth session in 1990 adopted resolution MEPC.46(30) on "Measures to control potential adverse impacts associated with the use of tributyltin compounds in anti-fouling paints", which recommends that IMO Member Governments adopt measures to eliminate the use of anti-fouling paint containing TBT on non-aluminium-hulled vessels of less than 25 m in length and eliminate the use of TBT-based anti-fouling paints with an average leaching rate of more than four micrograms of organotin per square centimetre per day. These recommendations were intended to be interim measures until IMO could consider a possible total prohibition of TBT compounds in anti-fouling systems. From 1990 onwards, MEPC was presented with TBT monitoring results which reconfirmed the toxicity of TBT compounds, as well as with information on existing alternatives, including their effectiveness and the risk posed to the marine environment by these systems.

The twenty-first session of the IMO Assembly in 1999 adopted resolution A.895(21) urging MEPC to work towards the expeditious development of a global legally binding instrument to address the harmful effects of anti-fouling systems used on ships. The resolution states that the global instrument, to be developed by MEPC, should ensure a global prohibition of the application of organotin compounds which act as biocides in anti-fouling systems on ships by 1 January 2003 and a complete prohibition on the presence of organotin compounds which act as biocides in anti-fouling systems on ships by 1 January 2008. A working group was established at MEPC, which took on the task of developing such a draft instrument.

In accordance with Article 2(b) of the Convention on the International Maritime Organization, the MEPC at its forty-third session recommended; and the twentieth extraordinary session of the Council decided, to convene a diplomatic conference to consider the adoption of a legal instrument on the control of harmful anti-fouling systems on ships.

In accordance with the decision of the Council, the International Conference on the Control of Harmful Anti-Fouling Systems for Ships, 2001, was convened by IMO and held in London at its Headquarters from 1 to 5 October 2001. The Conference adopted the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001 (the AFS Convention), together with four Conference resolutions, relating to the

Foreword

early and effective application of the AFS Convention, future work by the Organization pertaining to the AFS Convention, approval and test methodologies for anti-fouling systems on ships and the promotion of technical co-operation.

Article 11(1)(b) and (2) and regulation 1(4)(a) of annex 4 of the AFS Convention refer to the following guidelines to be developed by the Organization:

- .1 Guidelines for survey and certification of anti-fouling systems on ships;
- .2 Guidelines for brief sampling of anti-fouling systems on ships; and
- .3 Guidelines for inspection of ships anti-fouling systems on ships.

Conference resolution 2 urges the Organization to develop the above-mentioned guidelines as a matter of urgency for them to be adopted before the entry into force of the AFS Convention, with a view to facilitating global and uniform implementation of the AFS Convention.

This 2005 edition, reproduces the texts of the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001, the four Conference resolutions, and the Guidelines developed and adopted by the Organization.

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INTERNATIONAL CONVENTION ON THE CONTROL OF HARMFUL ANTI-FOULING SYSTEMS ON SHIPS, 2001

THE PARTIES TO THIS CONVENTION,

NOTING that scientific studies and investigations by Governments and competent international organizations have shown that certain anti-fouling systems used on ships pose a substantial risk of toxicity and other chronic impacts to ecologically and economically important marine organisms and also that human health may be harmed as a result of the consumption of affected seafood,

NOTING IN PARTICULAR the serious concern regarding anti-fouling systems that use organotin compounds as biocides and being convinced that the introduction of such organotins into the environment must be phased-out,

RECALLING that Chapter 17 of Agenda 21 adopted by the United Nations Conference on Environment and Development, 1992, calls upon States to take measures to reduce pollution caused by organotin compounds used in anti-fouling systems,

RECALLING ALSO that resolution A.895(21), adopted by the Assembly of the International Maritime Organization on 25 November 1999, urges the Organization's Marine Environment Protection Committee (MEPC) to work towards the expeditious development of a global legally binding instrument to address the harmful effects of anti-fouling systems as a matter of urgency,

MINDFUL OF the precautionary approach set out in Principle 15 of the Rio Declaration on Environment and Development and referred to in resolution MEPC.67(37) adopted by MEPC on 15 September 1995,

RECOGNIZING the importance of protecting the marine environment and human health from adverse effects of anti-fouling systems,

RECOGNIZING ALSO that the use of anti-fouling systems to prevent the build-up of organisms on the surface of ships is of critical importance to efficient commerce, shipping and impeding the spread of harmful aquatic organisms and pathogens,

RECOGNIZING FURTHER the need to continue to develop anti-fouling systems which are effective and environmentally safe and to promote the substitution of harmful systems by less harmful systems or preferably harmless systems,

HAVE AGREED as follows:

Article 1

General obligations

(1) Each Party to this Convention undertakes to give full and complete effect to its provisions in order to reduce or eliminate adverse effects on the marine environment and human health caused by anti-fouling systems.

(2) The annexes form an integral part of this Convention. Unless expressly provided otherwise, a reference to this Convention constitutes at the same time a reference to its annexes.

(3) No provision of this Convention shall be interpreted as preventing a State from taking, individually or jointly, more stringent measures with respect to the reduction or elimination of adverse effects of anti-fouling systems on the environment, consistent with international law.

(4) Parties shall endeavour to co-operate for the purpose of effective implementation, compliance and enforcement of this Convention.

(5) The Parties undertake to encourage the continued development of anti-fouling systems that are effective and environmentally safe.

Article 2

Definitions

For the purposes of this Convention, unless expressly provided otherwise:

(1) *Administration* means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of a State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the seabed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.

(2) *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.

(3) *Committee* means the Marine Environment Protection Committee of the Organization.

(4) *Gross tonnage* means the gross tonnage calculated in accordance with the tonnage measurement regulations contained in annex 1 to the International Convention on Tonnage Measurement of Ships, 1969, or any successor Convention.

(5) *International voyage* means a voyage by a ship entitled to fly the flag of one State to or from a port, shipyard, or offshore terminal under the jurisdiction of another State.

(6) *Length* means the length as defined in the International Convention on Load Lines, 1966, as modified by the Protocol of 1988 relating thereto, or any successor Convention.

(7) *Organization* means the International Maritime Organization.

(8) *Secretary-General* means the Secretary-General of the Organization.

(9) *Ship* means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft, fixed or floating platforms, floating storage units (FSUs) and floating production storage and off-loading units (FPSOs).

(10) *Technical Group* is a body comprised of representatives of the Parties, Members of the Organization, the United Nations and its Specialized Agencies, intergovernmental organizations having agreements with the Organization, and non-governmental organizations in consultative status with the Organization, which should preferably include representatives of institutions and laboratories that engage in anti-fouling system analysis. These representatives shall have expertise in environmental fate and effects, toxicological effects, marine biology, human health, economic analysis, risk management, international shipping, anti-fouling systems coating technology, or other fields of expertise necessary to objectively review the technical merits of a comprehensive proposal.

Article 3

Application

(1) Unless otherwise specified in this Convention, this Convention shall apply to:

- (a) ships entitled to fly the flag of a Party;
- (b) ships not entitled to fly the flag of a Party, but which operate under the authority of a Party; and
- (c) ships that enter a port, shipyard, or offshore terminal of a Party, but do not fall within subparagraph (a) or (b).

(2) This Convention shall not apply to any warships, naval auxiliary, or other ships owned or operated by a Party and used, for the time being, only on government non-commercial service. However, each Party shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such ships owned or operated by it, that such ships act in a manner consistent, so far as is reasonable and practicable, with this Convention.

(3) With respect to the ships of non-Parties to this Convention, Parties shall apply the requirements of this Convention as may be necessary to ensure that no more favourable treatment is given to such ships.

Article 4

Controls on anti-fouling systems

(1) In accordance with the requirements specified in annex 1, each Party shall prohibit and/or restrict:

- (a) the application, re-application, installation, or use of harmful anti-fouling systems on ships referred to in article 3(1)(a) or (b); and

- (b) the application, re-application, installation or use of such systems, whilst in a Party's port, shipyard, or offshore terminal, on ships referred to in article 3(1)(c),

and shall take effective measures to ensure that such ships comply with those requirements.

- (2) Ships bearing an anti-fouling system which is controlled through an amendment to annex 1 following entry into force of this Convention may retain that system until the next scheduled renewal of that system, but in no event for a period exceeding 60 months following application, unless the Committee decides that exceptional circumstances exist to warrant earlier implementation of the control.

Article 5

Controls of annex 1 waste materials

Taking into account international rules, standards and requirements, a Party shall take appropriate measures in its territory to require that wastes from the application or removal of an anti-fouling system controlled in annex 1 are collected, handled, treated and disposed of in a safe and environmentally sound manner to protect human health and the environment.

Article 6

Process for proposing amendments to controls on anti-fouling systems

- (1) Any Party may propose an amendment to annex 1 in accordance with this article.

(2) An initial proposal shall contain the information required in annex 2, and shall be submitted to the Organization. When the Organization receives a proposal, it shall bring the proposal to the attention of the Parties, Members of the Organization, the United Nations and its Specialized Agencies, intergovernmental organizations having agreements with the Organization and non-governmental organizations in consultative status with the Organization and shall make it available to them.

(3) The Committee shall decide whether the anti-fouling system in question warrants a more in-depth review based on the initial proposal. If the Committee decides that further review is warranted, it shall require the proposing Party to submit to the Committee a comprehensive proposal containing the information required in annex 3, except where the initial proposal also includes all the information required in annex 3. Where the Committee is of the view that there is a threat of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason to prevent a decision to proceed with the evaluation of the proposal. The Committee shall establish a technical group in accordance with article 7:

- (4) The technical group shall review the comprehensive proposal along with any additional data submitted by any interested entity and shall evaluate and report to the Committee whether the proposal has demonstrated a

potential for unreasonable risk of adverse effects on non-target organisms or human health such that the amendment of annex 1 is warranted. In this regard:

- (a) The technical group's review shall include:
- (i) an evaluation of the association between the anti-fouling system in question and the related adverse effects observed either in the environment or on human health, including, but not limited to, the consumption of affected seafood, or through controlled studies based on the data described in annex 3 and any other relevant data which come to light;
 - (ii) an evaluation of the potential risk reduction attributable to the proposed control measures and any other control measures that may be considered by the technical group;
 - (iii) consideration of available information on the technical feasibility of control measures and the cost-effectiveness of the proposal;
 - (iv) consideration of available information on other effects from the introduction of such control measures relating to:
 - the environment (including, but not limited to, the cost of inaction and the impact on air quality);
 - shipyard health and safety concerns (i.e. effects on shipyard workers);
 - the cost to international shipping and other relevant sectors; and
 - (v) consideration of the availability of suitable alternatives, including a consideration of the potential risks of alternatives.
- (b) The technical group's report shall be in writing and shall take into account each of the evaluations and considerations referred to in subparagraph (a), except that the technical group may decide not to proceed with the evaluations and considerations described in subparagraph (a)(ii) through (a)(v) if it determines after the evaluation in subparagraph (a)(i) that the proposal does not warrant further consideration.
- (c) The technical group's report shall include, *inter alia*, a recommendation on whether international controls pursuant to this Convention are warranted on the anti-fouling system in question, on the suitability of the specific control measures suggested in the comprehensive proposal, or on other control measures which it believes to be more suitable.

(5) The technical group's report shall be circulated to the Parties, Members of the Organization, the United Nations and its Specialized Agencies, intergovernmental organizations having agreements with the Organization and non-governmental organizations in consultative status with the Organization, prior to its consideration by the Committee. The Committee shall decide whether to approve any proposal to amend annex 1, and any modifications thereto, if appropriate, taking into account the technical group's report. If the report finds a threat of serious or irreversible damage, lack of full scientific certainty shall not, itself, be used as a reason to

prevent a decision from being taken to list an anti-fouling system in annex 1. The proposed amendments to annex 1, if approved by the Committee, shall be circulated in accordance with article 16(2)(a). A decision not to approve the proposal shall not preclude future submission of a new proposal with respect to a particular anti-fouling system if new information comes to light.

(6) Only Parties may participate in decisions taken by the Committee described in paragraphs (3) and (5).

Article 7

Technical groups

(1) The Committee shall establish a technical group pursuant to article 6 when a comprehensive proposal is received. In circumstances where several proposals are received concurrently or sequentially, the Committee may establish one or more technical groups as needed.

(2) Any Party may participate in the deliberations of a technical group, and should draw on the relevant expertise available to that Party.

(3) The Committee shall decide on the terms of reference, organization and operation of the technical groups. Such terms shall provide for protection of any confidential information that may be submitted. Technical groups may hold such meetings as required, but shall endeavour to conduct their work through written or electronic correspondence or other media as appropriate.

(4) Only the representatives of Parties may participate in formulating any recommendation to the Committee pursuant to article 6. A technical group shall endeavour to achieve unanimity among the representatives of the Parties. If unanimity is not possible, the technical group shall communicate any minority views of such representatives.

Article 8

Scientific and technical research and monitoring

(1) The Parties shall take appropriate measures to promote and facilitate scientific and technical research on the effects of anti-fouling systems as well as monitoring of such effects. In particular, such research should include observation, measurement, sampling, evaluation and analysis of the effects of anti-fouling systems.

(2) Each Party shall, to further the objectives of this Convention, promote the availability of relevant information to other Parties who request it on:

- (a) scientific and technical activities undertaken in accordance with this Convention;
- (b) marine scientific and technological programmes and their objectives; and
- (c) the effects observed from any monitoring and assessment programmes relating to anti-fouling systems.

Article 9

Communication and exchange of information

- (1) Each Party undertakes to communicate to the Organization:
 - (a) a list of the nominated surveyors or recognized organizations which are authorized to act on behalf of that Party in the administration of matters relating to the control of anti-fouling systems in accordance with this Convention for circulation to the Parties for the information of their officers. The Administration shall therefore notify the Organization of the specific responsibilities and conditions of the authority delegated to nominated surveyors or recognized organizations; and
 - (b) on an annual basis, information regarding any anti-fouling systems approved, restricted, or prohibited under its domestic law.
- (2) The Organization shall make available, through any appropriate means, information communicated to it under paragraph (1).
- (3) For those anti-fouling systems approved, registered or licensed by a Party, such Party shall either provide, or require the manufacturers of such anti-fouling systems to provide, to those Parties which request it, relevant information on which its decision was based, including information provided for in annex 3, or other information suitable for making an appropriate evaluation of the anti-fouling system. No information shall be provided that is protected by law.

Article 10

Survey and certification

A Party shall ensure that ships entitled to fly its flag or operating under its authority are surveyed and certified in accordance with the regulations in annex 4.

Article 11

Inspections of ships and detection of violations

- (1) A ship 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. Unless there are clear grounds for believing that a ship is in violation of this Convention, any such inspection shall be limited to:
 - (a) verifying that, where required, there is on board a valid, International Anti-Fouling System Certificate or a Declaration on Anti-Fouling System; and/or
 - (b) a brief sampling of the ship's anti-fouling system that does not affect the integrity, structure, or operation of the anti-fouling system taking into account guidelines developed by the Organization.*

* Refer to the Guidelines for brief sampling of anti-fouling systems on ships adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.104(49) and attached on page 41 of this publication.

However, the time required to process the results of such sampling shall not be used as a basis for preventing the movement and departure of the ship.

(2) If there are clear grounds to believe that the ship is in violation of this Convention, a thorough inspection may be carried out taking into account guidelines developed by the Organization.*

(3) If the ship is detected to be in violation of this Convention, the Party carrying out the inspection may take steps to warn, detain, dismiss, or exclude the ship from its ports. A Party taking such action against a ship for the reason that the ship does not comply with this Convention shall immediately inform the Administration of the ship concerned.

(4) Parties shall co-operate in the detection of violations and the enforcement of this Convention. A Party may also inspect a ship when it enters the ports, shipyards, or offshore terminals under its jurisdiction, if a request for an investigation is received from any Party, together with sufficient evidence that a ship is operating or has operated in violation of this Convention. The report of such investigation shall be sent to the Party requesting it and to the competent authority of the Administration of the ship concerned so that the appropriate action may be taken under this Convention.

Article 12 **Violations**

(1) Any violation of this Convention shall be prohibited and sanctions shall be established therefor under the law of the Administration of the ship concerned wherever the violation occurs. If the Administration is informed of such a violation, it shall investigate the matter and may request the reporting Party to furnish additional evidence of the alleged violation. If the Administration is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible, in accordance with its laws. The Administration shall promptly inform the Party that reported the alleged violation, as well as the Organization, of any action taken. If the Administration has not taken any action within one year after receiving the information, it shall so inform the Party which reported the alleged violation.

(2) Any violation of this Convention within the jurisdiction of any Party shall be prohibited and sanctions shall be established therefor under the law of that Party. Whenever such a violation occurs, that Party shall either:

- (a) cause proceedings to be taken in accordance with its law; or
- (b) furnish to the Administration of the ship concerned such information and evidence as may be in its possession that a violation has occurred.

* Refer to the Guidelines for inspection of anti-fouling systems on ships adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.105(49) and attached on page 63 of this publication.

(3) The sanctions established under the laws of a Party pursuant to this article shall be adequate in severity to discourage violations of this Convention wherever they occur.

Article 13

Undue delay or detention of ships

- (1) All possible efforts shall be made to avoid a ship being unduly detained or delayed under article 11 or 12.
- (2) When a ship is unduly detained or delayed under article 11 or 12, it shall be entitled to compensation for any loss or damage suffered.

Article 14

Dispute settlement

Parties shall settle any dispute between them concerning the interpretation or application of this Convention by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.

Article 15

Relationship to international law of the sea

Nothing in this Convention shall prejudice the rights and obligations of any State under customary international law as reflected in the United Nations Convention on the Law of the Sea.

Article 16

Amendments

- (1) This Convention may be amended by either of the procedures specified in the following paragraphs.
- (2) Amendments after consideration within the Organization:
 - (a) Any Party may propose an amendment to this Convention. A proposed amendment shall be submitted to the Secretary-General, who shall then circulate it to the Parties and Members of the Organization at least six months prior to its consideration. In the case of a proposal to amend annex 1, it shall be processed in accordance with article 6, prior to its consideration under this article.
 - (b) An amendment proposed and circulated as above shall be referred to the Committee for consideration. Parties, whether or not Members of the Organization, shall be entitled to participate in the proceedings of the Committee for consideration and adoption of the amendment.
 - (c) Amendments shall be adopted by a two-thirds majority of the Parties present and voting in the Committee, on condition that at least one third of the Parties shall be present at the time of voting.

- (d) Amendments adopted in accordance with subparagraph (c) shall be communicated by the Secretary-General to the Parties for acceptance.
- (e) An amendment shall be deemed to have been accepted in the following circumstances:
 - (i) An amendment to an article of this Convention shall be deemed to have been accepted on the date on which two thirds of the Parties have notified the Secretary-General of their acceptance of it.
 - (ii) An amendment to an annex shall be deemed to have been accepted at the end of twelve months after the date of adoption or such other date as determined by the Committee. However, if by that date more than one third of the Parties notify the Secretary-General that they object to the amendment, it shall be deemed not to have been accepted.
- (f) An amendment shall enter into force under the following conditions:
 - (i) An amendment to an article of this Convention shall enter into force for those Parties that have declared that they have accepted it six months after the date on which it is deemed to have been accepted in accordance with subparagraph (e)(i).
 - (ii) An amendment to annex 1 shall enter into force with respect to all Parties six months after the date on which it is deemed to have been accepted, except for any Party that has:
 - (1) notified its objection to the amendment in accordance with subparagraph (e)(ii) and that has not withdrawn such objection;
 - (2) notified the Secretary-General, prior to the entry into force of such amendment, that the amendment shall enter into force for it only after a subsequent notification of its acceptance; or
 - (3) made a declaration at the time it deposits its instrument of ratification, acceptance or approval of, or accession to, this Convention that amendments to annex 1 shall enter into force for it only after the notification to the Secretary-General of its acceptance with respect to such amendments.
 - (iii) An amendment to an annex other than annex 1 shall enter into force with respect to all Parties six months after the date on which it is deemed to have been accepted, except for those Parties that have notified their objection to the amendment in accordance with subparagraph (e)(ii) and that have not withdrawn such objection.
- (g) (i) A Party that has notified an objection under subparagraph (f)(ii)(1) or (iii) may subsequently notify the Secretary-General that it accepts the amendment. Such amendment shall enter into force for such Party six months after the date of its notification of acceptance, or the date on which the amendment enters into force, whichever is the later date.

- (ii) If a Party that has made a notification or declaration referred to in subparagraph (f)(ii)(2) or (3), respectively, notifies the Secretary-General of its acceptance with respect to an amendment, such amendment shall enter into force for such Party six months after the date of its notification of acceptance, or the date on which the amendment enters into force, whichever is the later date.
- (3) Amendment by a Conference:
- (a) Upon the request of a Party concurred in by at least one-third of the Parties, the Organization shall convene a Conference of Parties to consider amendments to this Convention.
 - (b) An amendment adopted by such a Conference by a two-thirds majority of the Parties present and voting shall be communicated by the Secretary-General to all Parties for acceptance.
 - (c) Unless the Conference decides otherwise, the amendment shall be deemed to have been accepted and shall enter into force in accordance with the procedures specified in paragraphs (2)(e) and (f) respectively of this article.
- (4) Any Party that has declined to accept an amendment to an annex shall be treated as a non-Party only for the purpose of application of that amendment.
- (5) An addition of a new annex shall be proposed and adopted and shall enter into force in accordance with the procedure applicable to an amendment to an article of this Convention.
- (6) Any notification or declaration under this article shall be made in writing to the Secretary-General.
- (7) The Secretary-General shall inform the Parties and Members of the Organization of:
- (a) any amendment that enters into force and the date of its entry into force generally and for each Party; and
 - (b) any notification or declaration made under this article.

Article 17

Signature, ratification, acceptance, approval and accession

- (1) This Convention shall be open for signature by any State at the Headquarters of the Organization from 1 February 2002 to 31 December 2002 and shall thereafter remain open for accession by any State.
- (2) States may become Parties to this Convention by:
- (a) signature not subject to ratification, acceptance, or approval; or
 - (b) signature subject to ratification, acceptance, or approval, followed by ratification, acceptance, or approval; or
 - (c) accession.

(3) Ratification, acceptance, approval, or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General.

(4) If a State comprises two or more territorial units in which different systems of law are applicable in relation to matters dealt with in this Convention, it may at the time of signature, ratification, acceptance, approval, or accession declare that this Convention shall extend to all its territorial units or only to one or more of them and may modify this declaration by submitting another declaration at any time.

(5) Any such declaration shall be notified to the Secretary-General and shall state expressly the territorial units to which this Convention applies.

Article 18

Entry into force

(1) This Convention shall enter into force twelve months after the date on which not less than twenty-five States, the combined merchant fleets of which constitute not less than twenty-five per cent of the gross tonnage of the world's merchant shipping, have either signed it without reservation as to ratification, acceptance or approval, or have deposited the requisite instrument of ratification, acceptance, approval or accession in accordance with article 17.

(2) For States which have deposited an instrument of ratification, acceptance, approval or accession in respect of this Convention after the requirements for entry into force thereof have been met, but prior to the date of entry into force, the ratification, acceptance, approval or accession shall take effect on the date of entry into force of this Convention or three months after the date of deposit of instrument, whichever is the later date.

(3) Any instrument of ratification, acceptance, approval or accession deposited after the date on which this Convention enters into force shall take effect three months after the date of deposit.

(4) After the date on which an amendment to this Convention is deemed to have been accepted under article 16, any instrument of ratification, acceptance, approval or accession deposited shall apply to the Convention as amended.

Article 19

Denunciation

(1) This Convention may be denounced by any Party at any time after the expiry of two years from the date on which this Convention enters into force for that Party.

(2) Denunciation shall be effected by the deposit of written notification with the Secretary-General, to take effect one year after receipt or such longer period as may be specified in that notification.

Article 20

Depositary

(1) This Convention shall be deposited with the Secretary-General, who shall transmit certified copies of this Convention to all States which have signed this Convention or acceded thereto.

(2) In addition to the functions specified elsewhere in this Convention, the Secretary-General shall:

- (a) inform all States which have signed this Convention or acceded thereto of:
 - (i) each new signature or deposit of an instrument of ratification, acceptance, approval, or accession, together with the date thereof;
 - (ii) the date of entry into force of this Convention; and
 - (iii) the deposit of any instrument of denunciation of this Convention, together with the date on which it was received and the date on which the denunciation takes effect; and
- (b) as soon as this Convention enters into force, transmit the text thereof to the Secretariat of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

Article 21

Languages

This Convention is established in a single original in the Arabic, Chinese, English, French, Russian and Spanish languages, each text being equally authentic.

IN WITNESS WHEREOF the undersigned being duly authorized by their respective Governments for that purpose have signed this Convention.*

DONE AT LONDON, this fifth day of October, two thousand and one.

* Signatures omitted.

Annex 1
Controls on anti-fouling systems

Anti-fouling system	Control measures	Application	Effective date
Organotin compounds which act as biocides in anti-fouling systems	Ships shall not apply or reapply such compounds	All ships	1 January 2003
Organotin compounds which act as biocides in anti-fouling systems	Ships either: (1) shall not bear such compounds on their hulls or external parts or surfaces; or (2) shall bear a coating that forms a barrier to such compounds leaching from the underlying non-compliant anti-fouling systems	All ships (except fixed and floating platforms, FSUs, and FPSOs that have been constructed prior to 1 January 2003 and that have not been in dry-dock on or after 1 January 2003)	1 January 2008

Annex 2*Required elements for an initial proposal*

- (1) An initial proposal shall include adequate documentation containing at least the following:
- (a) identification of the anti-fouling system addressed in the proposal: name of the anti-fouling system; name of active ingredients and Chemical Abstracts Service Registry Number (CAS number), as applicable; or components of the system which are suspected of causing the adverse effects of concern;
 - (b) characterization of the information which suggests that the anti-fouling system or its transformation products may pose a risk to human health or may cause adverse effects in non-target organisms at concentrations likely to be found in the environment (e.g., the results of toxicity studies on representative species or bioaccumulation data);
 - (c) material supporting the potential of the toxic components in the anti-fouling system, or its transformation products, to occur in the environment at concentrations which could result in adverse effects to non-target organisms, human health, or water quality (e.g., data on persistence in the water column, sediments and biota; the release rate of toxic components from treated surfaces in studies or under actual use conditions; or monitoring data, if available);
 - (d) an analysis of the association between the anti-fouling system, the related adverse effects and the environmental concentrations observed or anticipated; and
 - (e) a preliminary recommendation on the type of restrictions that could be effective in reducing the risks associated with the anti-fouling system.
- (2) An initial proposal shall be submitted in accordance with rules and procedures of the Organization.

Annex 3
*Required elements of a
comprehensive proposal*

- (1) A comprehensive proposal shall include adequate documentation containing the following:
- (a) developments in the data cited in the initial proposal;
 - (b) findings from the categories of data set out in paragraphs (3)(a), (b) and (c), as applicable, depending on the subject of the proposal and the identification or description of the methodologies under which the data were developed;
 - (c) a summary of the results of studies conducted on the adverse effects of the anti-fouling system;
 - (d) if any monitoring has been conducted, a summary of the results of that monitoring, including information on ship traffic and a general description of the area monitored;
 - (e) a summary of the available data on environmental or ecological exposure and any estimates of environmental concentrations developed through the application of mathematical models, using all available environmental fate parameters, preferably those which were determined experimentally, along with an identification or description of the modelling methodology;
 - (f) an evaluation of the association between the anti-fouling system in question, the related adverse effects and the environmental concentrations, either observed or expected;
 - (g) a qualitative statement of the level of uncertainty in the evaluation referred to in subparagraph (f);
 - (h) a recommendation of specific control measures to reduce the risks associated with the anti-fouling system; and
 - (i) a summary of the results of any available studies on the potential effects of the recommended control measures relating to air quality, shipyard conditions, international shipping and other relevant sectors, as well as the availability of suitable alternatives.
- (2) A comprehensive proposal shall also include information on each of the following physical and chemical properties of the component(s) of concern, if applicable:
- melting point;
 - boiling point;
 - density (relative density);
 - vapour pressure;
 - water solubility/pH/dissociation constant (pK_a);
 - oxidation/reduction potential;

- molecular mass;
 - molecular structure; and
 - other physical and chemical properties identified in the initial proposal.
- (3) For the purposes of paragraph (1)(b) above, the categories of data are:
- (a) Data on environmental fate and effect:
- modes of degradation/dissipation (e.g., hydrolysis/photodegradation/biodegradation);
 - persistence in the relevant media (e.g., water column/sediments/biota);
 - sediments/water partitioning;
 - leaching rates of biocides or active ingredients;
 - mass balance;
 - bioaccumulation, partition coefficient, octanol/water coefficient; and
 - any novel reactions on release or known interactive effects.
- (b) Data on any unintended effects in aquatic plants, invertebrates, fish, seabirds, marine mammals, endangered species, other biota, water quality, the sea-bed, or habitat of non-target organisms, including sensitive and representative organisms:
- acute toxicity;
 - chronic toxicity;
 - developmental and reproductive toxicity;
 - endocrine disruption;
 - sediment toxicity;
 - bioavailability/biomagnification/bioconcentration;
 - food web/population effects;
 - observations of adverse effects in the field/fish kills/strandings/tissue analysis; and
 - residues in seafood.
- These data shall relate to one or more types of non-target organisms such as aquatic plants, invertebrates, fish, birds, mammals and endangered species.
- (c) Data on the potential for human health effects (including, but not limited to, consumption of affected seafood).
- (4) A comprehensive proposal shall include a description of the methodologies used, as well as any relevant measures taken for quality assurance and any peer review conducted of the studies.

Annex 4
*Surveys and certification requirements
for anti-fouling systems*

Regulation 1
Surveys

- (1) Ships of 400 gross tonnage and above referred to in article 3(1)(a) engaged in international voyages, excluding fixed or floating platforms, FSUs, and FPSOs, shall be subject to surveys specified below:
- (a) an initial survey before the ship is put into service or before the International Anti-Fouling System Certificate (Certificate) required under regulation 2 or 3 is issued for the first time; and
 - (b) a survey when the anti-fouling systems are changed or replaced. Such surveys shall be endorsed on the Certificate issued under regulation 2 or 3.
- (2) The survey shall be such as to ensure that the ship's anti-fouling system fully complies with this Convention.
- (3) The Administration shall establish appropriate measures for ships that are not subject to the provisions of paragraph (1) of this regulation in order to ensure that this Convention is complied with.
- (4) (a) As regards the enforcement of this Convention, surveys of ships shall be carried out by officers duly authorized by the Administration or as provided in regulation 3(1), taking into account guidelines for surveys developed by the Organization.* Alternatively, the Administration may entrust surveys required by this Convention either to surveyors nominated for that purpose or to organizations recognized by it.
- (b) An Administration nominating surveyors or recognizing organizations[†] to conduct surveys shall, as a minimum, empower any nominated surveyor or recognized organization to:
- (i) require a ship that it surveys to comply with the provisions of annex 1; and
 - (ii) carry out surveys if requested by the appropriate authorities of a port State that is a Party to this Convention.

* Refer to the Guidelines for survey and certification of anti-fouling systems on ships adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.102(48) and attached on page 33 of this publication.

[†] Refer to the guidelines adopted by the Organization by resolution A.739(18), as may be amended by the Organization, and the specifications adopted by the Organization by resolution A.789(19), as may be amended by the Organization.

- (c) When the Administration, a nominated surveyor, or a recognized organization determines that the ship's anti-fouling system does not conform either to the particulars of a Certificate required under regulation 2 or 3, or to the requirements of this Convention, such Administration, surveyor or organization shall immediately ensure that corrective action is taken to bring the ship into compliance. A surveyor or organization shall also in due course notify the Administration of any such determination. If the required corrective action is not taken, the Administration shall be notified forthwith and it shall ensure that the Certificate is not issued or is withdrawn as appropriate.
- (d) In the situation described in subparagraph (c), if the ship is in the port of another Party, the appropriate authorities of the port State shall be notified forthwith. When the Administration, a nominated surveyor, or a recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such Administration, surveyor, or organization any necessary assistance to carry out their obligations under this regulation, including any action described in article 11 or 12.

Regulation 2

Issue or endorsement of an International Anti-Fouling System Certificate

- (1) The Administration shall require that a ship to which regulation 1 applies is issued with a Certificate after successful completion of a survey in accordance with regulation 1. A Certificate issued under the authority of a Party shall be accepted by the other Parties and regarded for all purposes covered by this Convention as having the same validity as a Certificate issued by them.
- (2) Certificates shall be issued or endorsed either by the Administration or by any person or organization duly authorized by it. In every case, the Administration assumes full responsibility for the Certificate.
- (3) For ships bearing an anti-fouling system controlled under annex 1 that was applied before the date of entry into force of a control for such a system, the Administration shall issue a Certificate in accordance with paragraphs (2) and (3) of this regulation not later than two years after entry into force of that control. This paragraph shall not affect any requirement for ships to comply with annex 1.
- (4) The Certificate shall be drawn up in the form corresponding to the model given in appendix 1 to this annex and shall be written at least in English, French, or Spanish. If an official language of the issuing State is also used this shall prevail in the case of the dispute or discrepancy.

Regulation 3

Issue or endorsement of an International Anti-Fouling System Certificate by another Party

- (1) At the request of the Administration, another Party may cause a ship to be surveyed and, if satisfied that this Convention has been complied with, it shall issue or authorize the issue of a Certificate to the ship and, where appropriate, endorse or authorize the endorsement of that Certificate for the ship, in accordance with this Convention.
- (2) A copy of the Certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.
- (3) A Certificate so issued shall contain a statement that it has been issued at the request of the Administration referred to in paragraph (1) and it shall have the same force and receive the same recognition as a Certificate issued by the Administration.
- (4) No Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party.

Regulation 4

Validity of an International Anti-Fouling System Certificate

- (1) A Certificate issued under regulation 2 or 3 shall cease to be valid in either of the following cases:
 - (a) if the anti-fouling system is changed or replaced and the Certificate is not endorsed in accordance with this Convention; and
 - (b) upon transfer of the ship to the flag of another State. A new Certificate shall only be issued when the Party issuing the new Certificate is fully satisfied that the ship is in compliance with this Convention. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration a copy of the Certificates carried by the ship before the transfer and, if available, a copy of the relevant survey reports.
- (2) The issue by a Party of a new Certificate to a ship transferred from another Party may be based on a new survey or on a valid Certificate issued by the previous Party whose flag the ship was entitled to fly.

Regulation 5

Declaration on Anti-Fouling System

- (1) The Administration shall require a ship of 24 metres or more in length, but less than 400 gross tonnage engaged in international voyages and to which article 3(1)(a) applies (excluding fixed or floating platforms, FSUs, and FPSOs) to carry a Declaration signed by the owner or owner's authorized

agent. Such Declaration shall be accompanied by appropriate documentation (such as a paint receipt or a contractor invoice) or contain appropriate endorsement.

(2) The Declaration shall be drawn up in the form corresponding to the model given in appendix 2 to this annex and shall be written at least in English, French, or Spanish. If an official language of the State whose flag the ship is entitled to fly is also used, this shall prevail in the case of a dispute or discrepancy.

Appendix 1 to annex 4
MODEL FORM OF INTERNATIONAL
ANTI-FOULING SYSTEM CERTIFICATE

INTERNATIONAL ANTI-FOULING SYSTEM CERTIFICATE

(This certificate shall be supplemented by a Record of Anti-Fouling Systems)

(Official seal)

(State)

Issued under the
International Convention on the Control of Harmful Anti-Fouling Systems
on Ships
under the authority of the Government of

.....
(name of the State)

by

.....
(person or organization authorized)

When a Certificate has been previously issued, this Certificate replaces the certificate dated

Particulars of ship¹

Name of ship

Distinctive number or letters

Port of registry

Gross tonnage

IMO number²

An anti-fouling system controlled under annex 1 has not been applied during or after construction of this ship

An anti-fouling system controlled under annex 1 has been applied on this ship previously, but has been removed by (insert name of the facility) on (date)

An anti-fouling system controlled under annex 1 has been applied on this ship previously, but has been covered with a sealer coat applied by (insert name of the facility) on (date)

An anti-fouling system controlled under annex 1 was applied on this ship prior to (date),³ but must be removed or covered with a sealer coat prior to (date)⁴

¹ Alternatively, the particulars of the ship may be placed horizontally in boxes.

² In accordance with the IMO Ship Identification Number Scheme adopted by the Organization with Assembly resolution A.600(15).

³ Date of entry into force of the control measure.

⁴ Date of expiration of any implementation period specified in article 4(2) or annex 1.

THIS IS TO CERTIFY THAT:

- 1 the ship has been surveyed in accordance with regulation 1 of annex 4 to the Convention; and
- 2 the survey shows that the anti-fouling system on the ship complies with the applicable requirements of annex 1 to the Convention.

Issued at
(Place of issue of Certificate)

.....
(Date of issue) (Signature of authorized official issuing the Certificate)

Date of completion of the survey
on which this certificate is issued:

MODEL FORM OF RECORD OF ANTI-FOULING SYSTEMS

RECORD OF ANTI-FOULING SYSTEMS

This Record shall be permanently attached to the International Anti-Fouling System Certificate

Particulars of ship

Name of ship:
Distinctive number or letters:
IMO number:

Details of anti-fouling system(s) applied

Type(s) of anti-fouling system(s) used
Date(s) of application of anti-fouling system(s)
Name(s) of company(ies) and facility(ies)/location(s) where applied
Name(s) of anti-fouling system manufacturer(s)
Name(s) and colour(s) of anti-fouling system(s)
Active ingredient(s) and their Chemical Abstracts Service Registry Number(s) (CAS number(s))
Type(s) of sealer coat, if applicable
Name(s) and colour(s) of sealer coat applied, if applicable
Date of application of sealer coat

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at
(Place of issue of Record)

.....
(Date of issue) (Signature of authorized official issuing the Record)

Endorsement of the Records⁵

THIS IS TO CERTIFY that a survey required in accordance with regulation 1(1)(b) of annex 4 to the Convention found that the ship was in compliance with the Convention

Details of anti-fouling system(s) applied

Type(s) of anti-fouling system(s) used

Date(s) of application of anti-fouling system(s)

Name(s) of company(ies) and facility(ies)/location(s) where applied

Name(s) of anti-fouling system(s) manufacturer(s)

Name(s) and colour(s) of anti-fouling system(s)

Active ingredient(s) and their Chemical Abstracts Service Registry Number(s) (CAS number(s))

Type(s) of sealer coat, if applicable

Name(s) and colour(s) of sealer coat applied, if applicable

Date of application of sealer coat

Signed:
(Signature of authorized official issuing the Record)

Place:

Date:⁶

(Seal or stamp of the authority)

⁵ This page of the Record shall be reproduced and added to the Record as considered necessary by the Administration.

⁶ Date of completion of the survey on which this endorsement is made.

Appendix 2 to annex 4
MODEL FORM OF DECLARATION ON ANTI-FOULING SYSTEM

DECLARATION ON ANTI-FOULING SYSTEM

Drawn up under the
International Convention on the Control of Harmful Anti-Fouling Systems
on Ships

Name of ship
Distinctive number or letters
Port of registry
Length
Gross tonnage
IMO number (if applicable)

I declare that the anti-fouling system used on this ship complies with annex 1 of
the Convention.

.....
(Date) (Signature of owner or owner's authorized agent)

Endorsement of anti-fouling system(s) applied

Type(s) of anti-fouling system(s) used and date(s) of application

.....
(Date) (Signature of owner or owner's authorized agent)

Type(s) of anti-fouling system(s) used and date(s) of application

.....
(Date) (Signature of owner or owner's authorized agent)

Type(s) of anti-fouling system(s) used and date(s) of application

.....
(Date) (Signature of owner or owner's authorized agent)

RESOLUTIONS ADOPTED BY THE CONFERENCE

Resolution 1

Early and effective application of the International Convention on the Control of Harmful Anti-Fouling Systems on Ships

THE CONFERENCE,

HAVING ADOPTED the International Convention on the Control of Harmful Anti-Fouling Systems on Ships,

RECALLING that resolution A.895(21), adopted by the Assembly of the International Maritime Organization on 25 November 1999, *inter alia*, agrees that a legally binding instrument should ensure a global prohibition of the application of organotin compounds which act as biocides in anti-fouling systems on ships by 1 January 2003,

NOTING that article 18 of the Convention provides that it shall enter into force twelve months after the date on which not less than twenty-five States, the combined merchant fleets of which constitute not less than twenty-five per cent of the gross tonnage of the world's merchant shipping, have become Parties to it in accordance with article 17 of the Convention,

NOTING ALSO that annex 1 of the Convention stipulates that organotin compounds which act as biocides in anti-fouling systems shall not be applied or re-applied on ships on or after 1 January 2003,

BEING AWARE that the time remaining until 1 January 2003 may not be sufficient to enable entry into force of the Convention by that date,

DESIRING that the substances addressed by annex 1 of the Convention will cease to be applied on ships as from 1 January 2003,

1. REQUESTS Member States of the Organization to do the utmost to prepare for consent to be bound by the Convention as a matter of urgency;
2. URGES the relevant industries involved to refrain from marketing, sale and application of the substances controlled by annex 1 of the Convention.

Resolution 2

*Future work by the Organization pertaining to the
International Convention on the Control of
Harmful Anti-Fouling Systems on Ships*

THE CONFERENCE,

HAVING ADOPTED the International Convention on the Control of Harmful Anti-Fouling Systems on Ships,

NOTING that article 11(1)(b) and (2) and regulation 1(4)(a) of annex 4 of the Convention refer to guidelines to be developed by the Organization for a brief sampling of anti-fouling systems, for thorough inspection and for surveys,

RECOGNIZING the need for the development of these Guidelines in order to ensure global and uniform application of the relevant requirements of the Convention,

INVITES the Organization to develop as a matter of urgency:

- (a) guidelines for brief sampling of anti-fouling systems under article 11(1)(b);
- (b) guidelines for inspection of ships under article 11(2); and
- (c) guidelines for surveys of ships under regulation 1(4)(a) of annex 4,

and adopt them in time before the entry into force of the Convention with a view to facilitating global and uniform implementation of the Convention.

Resolution 3

Approval and test methodologies for anti-fouling systems on ships

THE CONFERENCE,

HAVING ADOPTED the International Convention on the Control of Harmful Anti-Fouling Systems on Ships,

NOTING the procedures set out in the Convention for the addition of controlled anti-fouling systems in annex 1, and the time necessary to consider, adopt, and bring into force such amendments,

MINDFUL OF the precautionary approach set out in Principle 15 of the Rio Declaration on Environment and Development,

RECOGNIZING the importance of preventing the introduction and use of environmentally harmful anti-fouling systems,

1. INVITES States to approve, register or license anti-fouling systems applied in their territories, bearing in mind the information contained in annex 3 of the Convention;
2. ENCOURAGES States to make use of the provisions of article 9(3) of the Convention when considering anti-fouling systems for approval, registration or licensing for use on ships;
3. URGES States to continue the work, in appropriate international fora, for the harmonization of test methods, assessment methodologies, and performance standards for anti-fouling systems containing biocides;
4. REQUESTS the Organization to monitor and, as appropriate, participate in the initiatives described in the above paragraphs.

Resolution 4

Promotion of technical co-operation

THE CONFERENCE,

HAVING ADOPTED the International Convention on the Control of Harmful Anti-Fouling Systems on Ships,

BEING AWARE that the comprehensive protection of the marine environment requires, *inter alia*, broad international co-operation to prevent, reduce and control marine pollution from ships,

RECOGNIZING that Parties to this Convention will be called upon to give full and complete effect to its provisions, in order to reduce or eliminate adverse effects on the marine environment and human health caused by anti-fouling systems on ships,

BEING CONVINCED that the promotion of technical co-operation will expedite the acceptance, uniform implementation and enforcement of this Convention by States,

NOTING WITH APPRECIATION that, through the adoption of resolution A.901 (21), the Assembly of the International Maritime Organization (IMO):

- (a) affirmed that IMO's work in developing global maritime standards and in providing technical co-operation for their effective implementation and enforcement, can and does, contribute to sustainable development; and
- (b) decided that IMO's mission statement, in relation to technical co-operation, is to help developing countries improve their ability to comply with international rules and standards relating to maritime safety and the prevention and control of marine pollution, giving priority to technical assistance programmes that focus on human resource development, particularly through training and institutional capacity-building.

1. REQUESTS Member States, in co-operation with IMO, other interested States, competent international or regional organizations and industry programmes, to promote and provide directly, or through IMO, support to States that request technical assistance for:

- (a) the assessment of the implications of ratifying, accepting, approving, or acceding to, as well as implementing and enforcing this Convention;
- (b) the development of national legislation to give effect to this Convention;
- (c) the introduction of other measures, including the training of personnel, for the effective implementation and enforcement of this Convention; and

- (d) the introduction of environmentally sound measures to collect, handle, treat and dispose of wastes generated in applying or removing anti-fouling systems;
2. REQUESTS ALSO Member States, in co-operation with IMO, other interested States, competent international and regional organizations and industry programmes, to promote co-operation for scientific and technical research on the effects of anti-fouling systems as well as monitoring such effects in particular among Member States which have access to appropriate technology and those which do not;
3. URGES all States to initiate action in connection with the above-mentioned technical co-operation measures without awaiting the entry into force of this Convention.

GUIDELINES DEVELOPED AND ADOPTED
BY THE ORGANIZATION

Resolution MEPC.102(48)
(Adopted on 11 October 2002)

**GUIDELINES FOR SURVEY AND CERTIFICATION
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 the international conventions for the prevention and control of marine pollution,

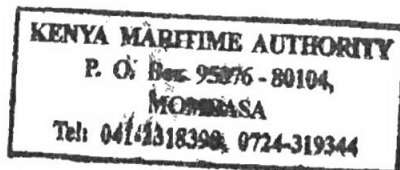
RECALLING ALSO that the International Conference on the Control of Harmful Anti-Fouling Systems for Ships, 2001, held in October 2001, adopted the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001 (the AFS Convention) together with four Conference resolutions,

NOTING that Article 10 of the AFS Convention prescribes that ships shall be surveyed and certified in accordance with the regulations of annex 4 of the Convention,

NOTING ALSO that regulation 1(4)(a) of annex 4 of the AFS Convention refers to the guidelines to be developed by the Organization and Conference resolution 2 urges the Organization to develop these Guidelines as a matter of urgency for them to be adopted before the entry into force of the Convention,

HAVING CONSIDERED the draft Guidelines for survey and certification of anti-fouling systems on ships prepared by the Sub-Committee on Flag State Implementation at its tenth session,

1. ADOPTS the Guidelines for survey and certification of anti-fouling systems on ships, as set out in the annex to this resolution;
2. INVITES Governments to apply the Guidelines as soon as possible, or when the Convention becomes applicable to them; and
3. RECOMMENDS that the Guidelines be reviewed on a regular basis.



Annex

Guidelines for survey and certification of anti-fouling systems on ships

1 General

1.1 Article 10 of the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001, hereinafter referred to as "the Convention", prescribes that ships shall be surveyed and certified in accordance with the regulations of annex 4 of the Convention. The purpose of this document is to provide the Guidelines for surveys and certification of anti-fouling systems on ships referred to in Regulation 1(4)(a) of annex 4, hereinafter referred to as the "Guidelines", that will assist Administrations and recognized organizations in the uniform application of the provisions of the Convention and assist companies, shipbuilders, manufacturers of anti-fouling systems, as well as other interested parties to understand the process of the surveys and issuance and endorsement of the certificates.

1.2 These Guidelines provide the procedures for survey to ensure that a ship's anti-fouling system complies with the Convention, and those necessary for issuance and endorsement of an International Anti-Fouling System Certificate. A guidance for compliant anti-fouling systems is given in the appendix to this annex.

1.3 These Guidelines apply to surveys of ships of 400 gross tonnage and above engaged in international voyages, excluding fixed or floating platforms, floating storage units (FSUs), and floating production storage and off-loading units (FPSOs), as specified in regulation 1(1) of annex 4 to the Convention.

1.4 The sole purpose of the survey activities described in these Guidelines is to verify compliance with the provisions of the Convention. Consequently, such surveys do not relate to any aspect not regulated by the Convention even if such aspects relate to the performance of an anti-fouling system on the hull of a ship, including the quality of workmanship during the application process.

1.5 In the event that a new survey method is developed, or in the event that the use of a certain anti-fouling system is prohibited and/or restricted, or in the light of experience gained, these Guidelines may need to be revised in the future.

2 Definitions

For the purposes of these Guidelines:

2.1 "Administration" means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of a State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the

sea-bed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.

2.2 "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.

2.3 "Company" means the owner of the ship or any other organization or person such as the manager or the bareboat charterer, who has assumed the responsibility for the operation of the ship from the owner of the ship and who, on assuming such responsibility, has agreed to take over all duties and responsibilities imposed by the International Safety Management (ISM) Code.

2.4 "Gross tonnage" means the gross tonnage calculated in accordance with the tonnage measurement regulations contained in annex 1 to the International Convention on Tonnage Measurement of Ships, 1969, or any successor convention.

2.5 "International voyage" means a voyage by a ship entitled to fly the flag of one State to or from a port, shipyard, or offshore terminal under the jurisdiction of another State.

2.6 "Length" means the length as defined in the International Convention on Load Lines, 1966, as modified by the Protocol of 1988 relating thereto, or any successor convention.

2.7 "Ship" means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft, fixed or floating platforms, floating storage units (FSUs) and floating production storage and off-loading units (FPSOs).

3 When are surveys required

3.1 An initial survey should be carried out:

- .1** for a newbuilding; or
- .2** for an existing ship, before the International Anti-Fouling System Certificate required under regulations 2 or 3 of annex 4 to the Convention is issued for the first time.

3.2 In order to ease the burden on the companies and other parties, the initial survey of the anti-fouling system on existing ships may best be carried out in connection with a drydock survey.

3.3 A survey should be carried out whenever an anti-fouling system is changed or replaced. Such surveys should cover the same scope as in section 5.2.

3.4 A major conversion affecting the anti-fouling system of a ship may be considered as a newbuilding as determined by the Administration.

3.5 Repairs generally do not require a survey. However, repairs affecting approximately twenty-five (25) percent or more of the anti-fouling system, should be considered as a change or replacement of the anti-fouling system.

3.6 A non-compliant anti-fouling system controlled under annex 1 of the Convention, that undergoes repair must be repaired, or replaced with a compliant anti-fouling system.

4 Request for survey

4.1 Prior to any survey, a request for survey should be submitted by the company to the Administration, or to a recognized organization, along with the ship's data required in the International Anti-Fouling System Certificate as listed:

- .1 Name of ship
- .2 Distinctive number or letters
- .3 Port of registry
- .4 Gross tonnage
- .5 IMO Number.

4.2 A request for survey should be supplemented by a declaration and supporting information from the anti-fouling system manufacturer, confirming that the anti-fouling system applied, or intended to be applied, to the ship is in compliance with the requirements of the Convention (with an identification of the version of the Convention referred to). Such declaration should provide the following information contained in the Record of Anti-Fouling Systems, as can be found in appendix 1 to annex 4 of the Convention:

- .1 Type of anti-fouling system*
- .2 Name of anti-fouling system manufacturer
- .3 Name and colour of anti-fouling system
- .4 Active ingredient(s) and their Chemical Abstracts Service Registry Number(s) (CAS number(s)).

Information required by the surveyor regarding compliance of product with the Convention should be found in a declaration from the anti-fouling system manufacturer which may be provided on the anti-fouling system container and/or on supportive documentation (such as Material Safety Data Sheets (MSDSs), or similar). A link between the supportive documentation and the relevant container should exist.

5 Conduct of surveys

5.1 Surveys for newbuildings

- .1 As part of the survey, it should be verified that the anti-fouling system specified by the documentation submitted with the

* Examples of suitable wording could be: "Organotin-free self-polishing type", "Organotin-free abrasive type", "Organotin-free conventional", "Biocide-free silicon type paint, others". In the case of an anti-fouling system containing no active ingredients, the words "biocide-free" should be used.

- request for survey complies with the Convention. The survey should include verification that the anti-fouling system applied is identical to the system specified in the request for survey.
- 2 Taking into account experience gained and the prevailing circumstances, the verification required by paragraph 5.1.1 should include one or more of the following tasks, as deemed necessary to verify compliance:
 - (a) Checking that the product identification on anti-fouling system containers used during the application process is identical to the system specified in the request for survey.
 - (b) Sampling of the anti-fouling system.
 - (c) Testing of the anti-fouling system.
 - (d) Other checks conducted on site.
 - 3 The verification tasks set out in paragraph 5.1.2 should be conducted at any time, either before, during, or after the anti-fouling system has been applied to the ship, as deemed necessary to verify compliance. No checks or tests must affect the integrity, structure or operation of the anti-fouling system.
- 5.2 *Surveys of existing ships intending to apply a new anti-fouling system*
- 1 If the existing anti-fouling system is confirmed by an International Anti-Fouling System Certificate not to be controlled under annex 1 of the Convention, the provisions described in paragraph 5.1 apply.
 - 2 If the existing anti-fouling system is declared not to be controlled under annex 1 of the Convention, without being documented by an International Anti-Fouling System Certificate, a 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, e.g., be MSDSs or similar, a declaration of compliance from the anti-fouling system manufacturer, invoices from the shipyard and/or the anti-fouling system manufacturer. To verify the new anti-fouling system, the provisions described in paragraph 5.1 apply.
 - 3 If the existing anti-fouling system has been removed, the removal should be verified in addition to the provisions described in paragraph 5.1.
 - 4 If a sealer coat has been applied, a verification should be carried out to confirm that the name, type and colour of the sealer coat applied to the ship match those specified in the request for survey, and that the existing anti-fouling system has been covered with that sealer coat. Additionally the provisions described in paragraph 5.1 apply.
 - 5 If the existing anti-fouling system is controlled under annex 1 of the Convention, it should be removed according to subparagraph 5.2.3 or covered by a sealer coat according to subparagraph 5.2.4 not later than 1 January 2008. Prior to this date, the existing anti-

fouling system may be overcoated with an anti-fouling system not controlled under annex 1 without removing or sealing the existing anti-fouling system. This option should be stated on the International Anti-Fouling System Certificate by ticking off the appropriate box. To verify the new anti-fouling system, the provisions described in paragraph 5.1 apply.

5.3 *Surveys of existing ships requesting only an International Anti-Fouling System Certificate*

- .1 If the existing anti-fouling system is declared to be controlled under annex 1 of the Convention (i.e. containing prohibited/regulated compounds), an International Anti-Fouling System Certificate may be issued on request stating that the anti-fouling system will be removed, or covered with a sealer coat when directed by the Convention.
- .2 If the existing anti-fouling system is declared not to be controlled under annex 1 of the Convention, a 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. Such documentation could be MSDSs or similar, a declaration of compliance from the anti-fouling system manufacturer, invoices from the shipyard and/or the anti-fouling system manufacturer. If this information raises no reasonable doubt that the system applied is compliant with annex 1 of the Convention, the International Anti-Fouling System Certificate may be issued on this basis.

5.4 *Surveys of ships prior to entry into force of the Convention*

- .1 Prior to the Convention having entered into force, an Administration may conduct surveys of ships in accordance with these Guidelines, and may then issue a Statement of Compliance to this effect.
- .2 Ships capable of documenting full compliance with the Convention through such a statement of compliance may be issued, upon entry into force of the Convention, an International Anti-Fouling System Certificate on that basis subject to any additional requirements from the Administration.

6 Issuing or endorsing the International Anti-Fouling System Certificate

6.1 The International Anti-Fouling System Certificate along with the Record of Anti-Fouling Systems should be:

- .1 issued upon satisfactory completion of the initial survey;
- .2 issued upon acceptance of another Party's International Anti-Fouling System Certificate; or
- .3 endorsed upon satisfactory completion of a survey for change or replacement of an anti-fouling system.

Appendix

Guidance for compliant anti-fouling systems

For the purpose of compliance with annex 1 of the Convention, small quantities of organotin compounds acting as a chemical catalyst (such as mono- and di-substituted organotin compounds) are allowed, provided that they are present at a level which does not provide a biocidal effect to the coating. On a practical level, when used as a catalyst, an organotin compound should not be present above 2,500 mg total tin per kilogram of dry paint.

Resolution MEPC.104(49)
Adopted on 18 July 2003

**GUIDELINES FOR BRIEF SAMPLING
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 the 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,

NOTING 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, and that such inspection includes brief sampling of the ship's anti-fouling system,

NOTING ALSO that article 11(1) of the AFS Convention refers to the guidelines to be developed by the Organization and Conference resolution 2 urges the Organization to develop these guidelines as a matter of urgency for them to be adopted before the entry into force of the Convention,

NOTING FURTHER that through resolutions MEPC.102(48) and MEPC.105(49) the Organization has developed "Guidelines for Survey and Certification of Anti-fouling Systems on Ships" and "Guidelines for Inspection of Anti-fouling Systems on Ships, respectively, and

HAVING CONSIDERED the recommendation made by the Sub-Committee on Flag State Implementation at its eleventh session,

1. ADOPTS the Guidelines for brief sampling of anti-fouling systems on ships, the text of which is set out in the annex to this resolution;
2. INVITES Governments to apply the Guidelines as soon as possible, or when the Convention becomes applicable to them; and
3. RECOMMENDS that the Guidelines be reviewed on a regular basis.

Annex

Guidelines for brief sampling of anti-fouling systems on ships

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1 General

Purpose

1.1 Article 11 of the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001, hereinafter referred to as "the Convention", and resolution MEPC.102(48) Guidelines for survey and certification of anti-fouling systems on ships refer to sampling as a method of verification of compliance of a ships anti fouling system with the Convention for inspection and survey.

1.2 The "Guidelines for brief sampling of anti-fouling systems on ships", hereinafter referred to as "the Guidelines", provide procedures for sampling to support the effectiveness of survey and inspection to ensure that a ship's anti-fouling system complies with the Convention and thus assists:

- .1 Administrations and recognized organizations (ROs) in the uniform application of the provisions of the Convention;
- .2 port State control officers with guidance on methods and handling of brief sampling in accordance with Article 11(1)(b) of the Convention; and
- .3 companies, shipbuilders, manufacturers of anti-fouling systems, as well as any other interested parties in understanding the process of sampling as required in terms of the Convention.

1.3 However, inspections or surveys do not necessarily always need to include sampling of anti-fouling system.

1.4 These Guidelines apply to surveys and inspections of ships subject to the Convention.

1.5 The sole purpose of the sampling activities described in the Guidelines is to verify compliance with the provisions of the Convention. Consequently, such activities do not relate to any aspect not regulated by the Convention, (even if such aspects relate to the performance of an anti-fouling system on the hull of a ship, including the quality of workmanship).

Structure of these Guidelines

1.6 These Guidelines contain:

- .1 a main body covering aspects of general nature common to "sampling" procedures related to the regulation of anti-fouling systems controlled by the Convention; and
- .2 appendices describing the unique procedures associated with the sampling and analysis of anti-fouling systems controlled by the Convention. These appendices only serve as examples of sampling and analytical methods and other sampling methods not described in an appendix may be used subject to the satisfaction of the Administration or the port State, as appropriate.

1.7 For reasons including the event of other anti-fouling systems becoming controlled under the Convention, or in the light of new experience acquired, these Guidelines may need to be reviewed or amended in the future.

2 Definitions

For the purposes of these Guidelines:

2.1 *Administration* means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of a State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the seabed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.

2.2 *Anti-fouling system* means a coating, paint, surface treatment, surface or device that is used on a ship in order to control or prevent attachment of unwanted organisms.

2.3 *Threshold value* means the concentration limit of the chemical under investigation below which compliance with the relevant provisions of the Convention may be assumed.

2.4 *Company* means the owner of the ship or any other organization or person such as the manager or the bareboat charterer, who has assumed the responsibility for the operation of the ship from the owner of the ship and who, on assuming such responsibility, has agreed to take over all duties and responsibilities imposed by the International Safety Management (ISM) Code.

2.5 *Length* means the length as defined in the International Convention on Load Lines, 1966, as modified by the Protocol of 1988 relating thereto, or any successor Convention.

2.6 *Tolerance range* means the numerical range added to the threshold value indicating the range where detected concentrations above the threshold value are acceptable due to recognised analytical inaccuracy and thus do not compromise the assumption of compliance.

3 Personnel safety when sampling

Health

3.1 Persons carrying out sampling should be aware that solvents or other materials used for sampling may be harmful. Wet paint which is sampled may also be harmful. In these cases the material safety data sheet (MSDS) for the solvent or paint should be read and appropriate precautions should be taken. This will normally include the wearing of long sleeve solvent resistant gloves of suitable impervious material - e.g. nitrile rubber.

3.2 Quantities of dry anti-fouling paint removed during sampling from ships' hulls will normally be too small to cause significant health effects.

Safety

3.3 Access to ships to carry out sampling safely may be difficult. If a ship is moored alongside persons carrying out sampling must ensure they have safe access to reach the hull from e.g. platforms, crane baskets, cherry-pickers, gangways. They must ensure that they are protected by railings or a climbing harness or take other precautions so that they cannot fall into the water between the quay and the ship. If in doubt a lifejacket and possibly a safety line, should be worn when sampling.

3.4 Access to ships in dry-dock should be made by secure means. Scaffolding should be securely constructed and cherry-pickers or dock-arms should be properly constructed and maintained if they are to be used to gain access. There should be a system to record the presence of the inspector in the dock area, and he should preferably be accompanied. Safety harnesses should be worn in cherry-picker baskets, if used.

4 Sampling and analysis

Sampling methods

4.1 During sampling, care should be taken not to affect the integrity or operation of the anti-fouling system.

4.2 Sampling where the anti-fouling coating is visibly damaged* or on block mark areas on the flat bottom of the ship (where the intact anti-fouling system is not applied) should be avoided. Sampling adjacent to or below areas where the anti-fouling system is damaged should also be avoided. When a sample point on the hull has been selected, any fouling present should be removed with water and a soft sponge/cloth before taking a specimen of the anti-fouling system (to avoid contamination of sample). Where possible, if carried out in dry-dock, sampling should be carried out after the hull has been water-washed.

4.3 The materials required for brief sampling methodologies should ideally be inexpensive, widely available and therefore readily accessible, irrespective of sampling conditions and/or location.

4.4 The sampling procedure should ideally be easily and reliably undertaken. Persons conducting sampling should receive appropriate training in sampling methods.

Technical aspects

4.5 The sampling method should take into account the type of anti-fouling system used on the ship.

4.6 Specimens of paint for analysis during survey and certification can be taken either as wet paint[†] from product containers, or dry paint film sampled from the hull.

Sampling strategy and number of samples

4.7 The sampling strategy is dependent on the precision of the sampling method, the analytical requirements, costs and required time and the purpose of the sampling. The number of paint specimens taken of each sample should allow for a retention quantity for back-up/storage in the event

* During in-service periods, anti-fouling coatings on ships' hulls often become damaged. The extent of the damage varies between ships and damaged areas can be visually recognized. Typically damage can be restricted to localized areas e.g. anchor chain damage (bow region), fender damage (vertical sides of hull), 'rust through areas' (underlying rust causing coating failure) or in some cases be in smaller areas scattered over larger areas of the hull (usually older ships where over-coating of original system has taken place many times).

[†] In order to prevent contamination, wet paint samples should be taken from a newly opened container. Paint should be stirred to ensure even consistency before sampling and all equipment used should be cleaned prior to use. Liquid paint samples should be stored in appropriate sealed packaging which will not react with or contaminate the sample. In the case of multi-component coatings (where on-site mixing of several components is required prior to application), samples of each component should be taken and the required mixing ratio recorded. When a sample of wet paint is taken from a container, details of the paint should be recorded e.g. details required for the IAFS Certificate along with a batch number for the product.

of a dispute. For dry samples, 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).

4.8 In cases where it is recognized that more than one type of anti-fouling system is present on the hull, where access can be gained, samples should be taken from each type of system:

- .1 for survey purposes or for more thorough inspections pursuant to article 11(2) of the Convention, in order to verify the compliance of an anti-fouling system, the number of sample points should reflect representative areas of the ship's hull; and
- .2 for inspection purposes pursuant to article 11(1) of the Convention sample points on the hull should be selected covering representative areas where the anti-fouling system is intact. Depending on the size of the vessel and accessibility to the hull, at least four sample points should be equally spaced down the length of the hull. If sampling is undertaken in dry-dock, flat bottom areas of the hull should be sampled in addition to vertical sides as different anti-fouling systems can be present on these different areas.

Analysis

4.9 The analysis of the anti-fouling system should ideally involve minimal analytical effort and economic cost.

4.10 The analysis should be conducted by a recognized laboratory meeting the ISO 17025 standard or another appropriate facility at the discretion of the Administration or the port State.

4.11 The analytical process should be expeditious, such that results are rapidly communicated to the officers authorized to enforce the Convention.

4.12 The analysis should produce unambiguous results expressed in units consistent with the Convention and its associated Guidelines. For example, for organotin, results should be expressed as: mg tin (Sn) per kg of dry paint.

Note: Compound-specific sampling and analytical methodologies are described in the appendices to these Guidelines.

5 Thresholds and tolerance limits

Thresholds

5.1 The analysis should be quantitative to the point of being able to accurately verify the threshold limits within the given tolerance.

5.2 In cases where compliance with acceptable limits, or lack thereof, is unclear, additional sampling or other methodologies for sampling should be considered.

Tolerance range

5.3 Statistical reliability for each (compound-specific) brief sampling procedure should be documented. The analysis should be quantitative to

the point of being able to accurately verify the threshold limits within the given tolerance. On the basis of these data a compound-specific tolerance range should be derived and stated compound-specific in the method description. In general, the tolerance range should not be higher than the standard deviation under typical conditions for testing and should under no circumstances go beyond 30 %.

6 Definition of compliance

6.1 Compliance with Annex 1 of the Convention is assumed if the anti-fouling system contains organotin at a level which does not provide a biocidal effect. In practice organotin compounds should not be present above 2,500 mg organotin (measured as Sn) per kg of dry paint.

6.2 Compliance is largely dependent on the results of sampling and subsequent analysis. As every method of sampling and analysis has its specific accuracy, a compound-specific tolerance level may be applied in borderline cases with concentrations very close to the threshold level.

6.3 In general, compliance is assumed when the samples yield results below the threshold value.

7 Documentation and recording of information

7.1 The results of the sampling procedure should be fully documented on a method-specific record sheet. Examples are provided in the appendices to these Guidelines.

7.2 Such record sheets should be completed by the sampler and should be submitted to the competent authority of the Port State or Administration.

Appendix

Possible methods for brief sampling and analysis of anti-fouling systems on ships

- Organotin -

METHOD 1

1 Purpose of this method concerning brief sampling and analysis of anti-fouling systems

1.1 This method has been developed in order to describe a rapid methodology appropriate for the identification of anti-fouling systems on ship hulls containing organotin compounds acting as biocide. This method has been designed such that sealers should not be affected, and any underlying anti-fouling agent (or primer) is not taken up in the sampling procedure. The method is not recommended for silicon-based anti-fouling systems.

1.2 This method is based on a two-step analysis. The first step detects total tin as an indicator for organotin; the second step, detecting specific organotin compounds, is only necessary in the case of the first step proving positive.

2 Sampling device and materials

2.1 The sampling device is constructed in a way that only the upper layer of paint is removed, thereby and should leave any underlying paint (sealer, primer etc.) intact. This result is achieved through the use of a moving disk, (eccentric rotation) which is covered by an abrasive material like quartz or glass fibre fabric. This abrasive material has to be suitable for its use as a supporting material for the removed paint.

2.2 The device fulfils the following requirements:

- 1 the device has to work independently from any stationary power supply. The device may be driven by an electrical motor (battery-driven) or may be mechanically driven by a clockwork-like spring, provided it is able to sustain the movement over the required time period;
- 2 the applied force has to be constant during the operation, and the area for paint removal has to be defined;
- 3 the abrasive material has to be inert against chemical solvents and acids and must not contain more than trace amounts of tin or tin compounds; and
- 4 the amount of paint removed after a regular operation of the device has to be shown to exceed 20 mg per sample.

2.3 The device as described in the following section has been shown to be suitable for the brief sampling procedure. Any other device may be used however, provided such a device has proven to meet all the above-mentioned requirements.

2.4 The sampling device described here consists of a polyethylene disk, on which fibre glass fabric can be mounted by the use of an O-ring. The disk is moved on an eccentrically rotating axis.

3 Sampling procedure

3.1 The sampling procedure should be performed in the following manner:

- .1 control samples should be taken through the entire sampling and analytical process to account for possible contamination;
- .2 the mass of the fibre glass pads is weighed with a precision of at least 1 mg. The weight should be documented for each sample;
- .3 the fabric should be moistened thoroughly with isopropanol (0.7ml per sample) immediately before sampling;
- .4 when a sample point on the hull has been selected, any fouling present should be removed with water and a soft sponge/cloth before taking a specimen of the anti-fouling system (to avoid contamination of sample). Where possible, if carried out in dry-dock, sampling should be carried out after the hull has been water-washed;
- .5 the sampling device is then held against the surface to be sampled for a period of 5 seconds, prior to the sampling device being switched on;
- .6 the sampling device is switched on, thereby removing paint by the circular motion of the fibre glass fabric against the surface of the ship;
- .7 the sampling device should be applied to the surface of the hull for a suitable period of time, such that at least 20 mg of paint is taken up by the pad. As a general rule, if the pad colour after sampling matches the colour of the hull coating a sufficient sample has been taken;
- .8 the two-step analysis procedure requires that every sample should be taken in triplicate. Two of the specimens should be labelled Specimen 'A' and Specimen 'B'. In addition a third specimen for storage/back-up should be taken. These specimens should be taken as close to each other as possible, but without overlap; and
- .9 upon completion of the sampling, the fibre glass fabric pads should be left to dry, and re-weighed.

3.2 Samples should be stored in appropriate sealed packaging, which will not react with or contaminate the sample.

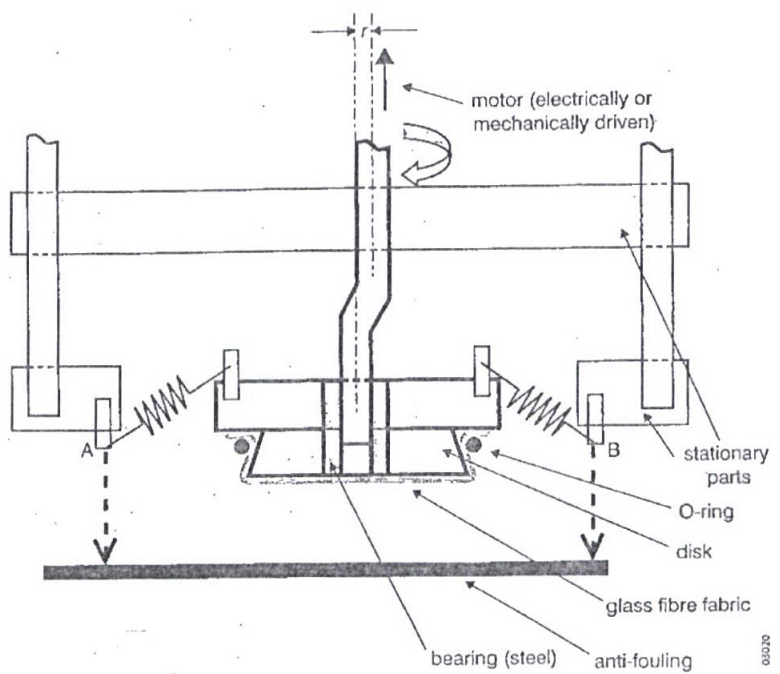


Diagram A - Schematic cross section of the sampling device

The indicated points A and B are to be pressed against the surface. The polyethylene disk, covered with the glass fibre fabric, is moved with an amplitude of $2r$ ($r = 1.0$ cm) on the surface.

Specific data:

Force applied on the paint surface:	25 N (Newton)
Effective diameter of the disk:	5 cm
Frequency of rotation:	6 rotations/s
Solvent used	isopropanol (0.8 ml per sample).

4 Sampling strategy

4.1 Sampling should be conducted in accordance with paragraph 4 of the Guidelines.

4.2 For inspection purposes in most cases accessibility to all parts of the hull will not be given. A minimum number of eight independent samples should be taken from different accessible parts of the hull.

5 Analytical procedure

5.1 The two components comprising the analytical procedure are illustrated in the flow diagram B. The two components, or steps, are as follows:

- .1 (Step 1) – An analysis of Specimen A for the presence of total tin; and
- .2 (Step 2) – A more cost- and time-consuming analysis of Specimen B, that is applied only when Step 1 produces positive results. This test involves organotin analysis by gas chromatography/mass spectrophotometry (GC/MS) after derivatisation and provides specific data on the respective organotin species.

Step 1: Investigation of total tin content in Specimen 'A'

Analysis of Specimen 'A'

5.2 Specimen 'A' is analysed for mass of total tin per kilogram of dry paint (or mass of tin per sample) by applying inductively coupled plasma/mass spectrometry (ICP/MS), once the material had been solubilized by digestion using aqua regia. It should be noted that any other scientifically recognized procedure for tin analysis (such as AAS, XRF and ICP-OES) is acceptable.

Step 2: Characterization of organotin in Specimen 'B'

Analysis of Specimen 'B'

5.3 Should Specimen 'A' produce positive results, organotin compounds should be identified and quantified in Specimen 'B'. Specimen 'B' may be analysed using the following procedure:

- .1 solvent extraction of Specimen 'B' as supported by sonication in an ultrasonic bath;
- .2 derivatisation with ethylmagnesium bromide;
- .3 clean-up of the extract;
- .4 analysis using high resolution gas chromatography/mass spectrophotometry (GC/MS); and
- .5 quantifications using tripropyltin as a standard.

5.5 Any equally reliable method for the chemical identification and quantification of organotin compounds is acceptable.

6 Threshold and tolerance range

6.1 The threshold value for the brief sampling method as described here is:

“2,500 mg tin (Sn) per kg of dry paint.”

Tolerance range

6.2 The tolerance range is 500 mg Sn/kg of dry paint (20%) in addition to the threshold value.

Organotin containing compounds acting as biocides or catalysts

6.3 As stated in the appendix of resolution MEPC.102(48), for the purposes of defining compliance with annex 1 of the Convention, it should be noted that small quantities of organotin compounds, acting as chemical catalysts (such as mono- and di-substituted organotin compounds) are allowed, provided they are not acting as a biocide.

6.4 Inorganic impurities in the constituents of the paints should be considered.

6.5 At present neither organotin catalysts nor inorganic impurities are found at concentrations which will be close to the threshold level (2,500 mg Sn/kg of dry paint) or higher. However, organotin-containing compounds, when present in paint in order to act as a biocide, were found in concentrations up to 50,000 mg Sn/kg of dry paint. Thus the discrimination between anti-fouling systems containing organotin compounds acting as a biocide and anti-fouling systems not containing these compounds or not containing these compounds at concentrations where they act as a biocide, is reliably possible.

7 Definition of compliance

Two-step procedure

7.1 The analytical verification of the compliance with the Convention is performed in a two-step procedure according to the flow-diagram (diagram B).

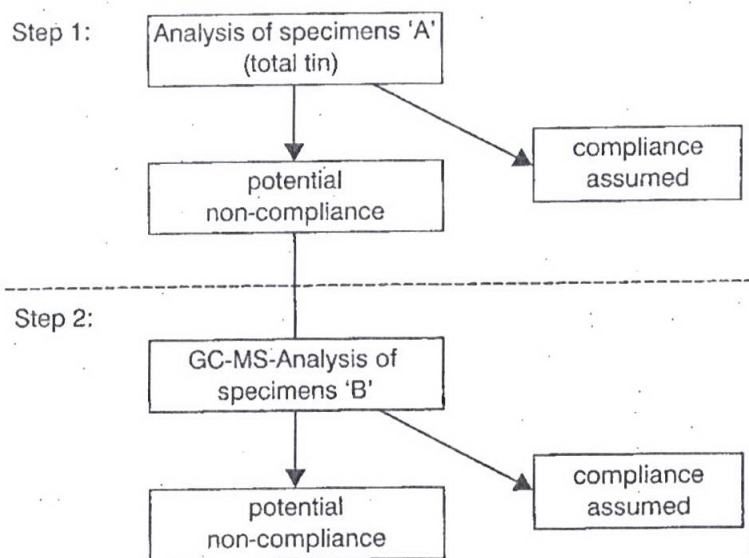


Diagram B - Flow diagram illustrating the two-step analysis procedure

Compliance with the criteria at the 'Step 1-level'

7.2 Compliance with the Convention is assumed when the results from the specimens 'A', analysed in step 1, meet the following:

- .1 no more than 25% of the total number of samples yield results above 2,500 milligrams total tin per kilogram dry paint (2,500 mg Sn/kg of dry paint); and
- .2 no sample of the total number of at least eight samples shows a concentration of total tin higher than the sum of threshold value plus the tolerance range; i.e. no sample must exceed the concentration 3,000 mg Sn/kg of dry paint.

7.3 If the results in specimen 'A' indicate that no organotin acting as biocide is present, then performing step 2 is not necessary.

Non-compliance with the criteria at the 'Step 1-level'

7.4 A positive result (non-compliance) is indicated if provisions of paragraph 7.2 are not met.

7.5 A positive result at step 1 (specimen 'A') would indicate that step 2 should be undertaken, and those samples labelled specimen 'B' should be analysed in order to determine and characterize the organotin present (see diagram B).

Compliance with the criteria at the 'Step 2-level'

7.6 Compliance with the Convention is assumed when the results from the specimens 'B', analysed in step 2, meet the following requirements at the same time:

- .1 no more than 25% of the total number of samples yield results above 2,500 milligrams total tin per kilogram dry paint (2,500 mg Sn/kg of dry paint); and
- .2 no sample of the total number of at least eight samples shows a concentration of total tin higher than the sum of threshold value plus the tolerance range, i.e., no sample must exceed the concentration 3,000 mg Sn/kg of dry paint.

Non-compliance at 'Step 2-level'

7.7 A positive result in step 2 indicates non-compliance if the provisions of paragraph 7.6 are not met. Such results should be interpreted to mean that organotin compounds are present in the anti-fouling system at a level at which it would act as a biocide.

Appendix to method 1

*Record sheet for the brief sampling procedure
for compliance with the Convention in terms of
the presence of organotin acting as a biocide
in anti-fouling systems on ship hulls*

Record sheet		Record number
GUIDELINES FOR BRIEF SAMPLING OF ANTI-FOULING SYSTEMS ON SHIPS - ORGANOTIN -		
SECTION A: Administration		
1 Country	2 Name of port	3 Date
4 Reason for sampling: <input type="checkbox"/> Port State control <input type="checkbox"/> Survey & Certification <input type="checkbox"/> Other flag State compliance inspection		
5 Company details: 1 Name of ship: 2 Distinctive number or letters: 3 Port of registry: 4 Gross tonnage: 5 IMO number:		6 Inspecting official's details: 1 Name: 2 Comments:
SECTION B: Sampling		
1 Time sampling procedure initiated:		
2 Description of location from where samples were taken (frame number and distance from boot topping, refer to paragraph 3.2):		
3 Number of samples taken (three specimens per sample):		
4 Photographs taken of the sample points prior to sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No		
5 Time sampling procedure completed:		
6 Additional comments concerning sampling procedure:		

SECTION C: Analysis and results

1 Step 1 total tin analysis:

Company name: _____

Analyst responsible: _____

Date: _____

2 Specimen 'A' results: _____ total number of specimens 'A' analysed: _____

No.	mg Sn/kg	No.	mg Sn/kg	No.	mg Sn/kg	No.	mg Sn/kg
1		5		9		13	
2		6		10		14	
3		7		11		15	
4		8		12		16	

Number of specimens exceeding 2,500 mg/kg: _____

1 or more specimens exceeding 3,000 mg/kg: yes no

Conclusion:

Step 2 required

Compliance, Further analysis unnecessary:

3 Additional comments concerning analysis of results from Specimen 'A':

4 Organotin analysis undertaken by:

Company name: _____

Analyst responsible: _____

Date: _____

5 Specimen 'B' results: _____ total number of specimens 'B' analysed: _____

No.	organotin (mg/kg) as Sn	No.	organotin (mg/kg) as Sn	No.	organotin (mg/kg) as Sn	No.	organotin (mg/kg) as Sn
1		5		9		13	
2		6		10		14	
3		7		11		15	
4		8		12		16	

Number of specimens exceeding 2,500 mg/kg: _____

1 or more specimens exceeding 3,000 mg/kg: yes no

Conclusion:

Non-compliance assumed

Compliance assumed

6 Additional comments concerning analysis of results from Specimens 'B':

7 Summarized conclusion:

Compliance assumed

Non-compliance assumed

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at _____

(Place of issue of Record)

 (Date of issue) (Printed name and signature of authorized official issuing the Record)

(Seal or stamp of the authority /organization)

METHOD 2

1 Purpose of this method

1.1 This method provides sampling and analysis procedures to identify the presence of organotin compounds in the anti-fouling systems on ships. The method is designed such that the sampling and the first stage analysis could be carried out by ship surveyors or port State control officers (PSCOs) on the survey/inspection site, e.g. at a dry dock.

1.2 This method is based on a two-stage analysis. The first stage detects total tin as an indicator for the presence of organotin and the second stage is necessary only in the case that the first stage analysis providing a positive result to detect specific organotin compounds.

2 Sampling

2.1 The sampling is carried out by using abrasive paper rubbing on the surface of the anti-fouling system. This results in collection of paint fragment of the anti-fouling system from thin area, less than several micrometer in depth from the surface, which do not affect the coatings lying underneath such as sealers.

2.2 Abrasive paper is pasted on a disc of approximately 10 mm in diameter. Rubbing the surface of the anti-fouling system with the disc collects several milligrams of the sample on to the abrasive paper.

2.3 The sampling device consists of an electric motor, two (or three) rotating rods on each of which a disc is attached, and a battery for electric power supply. The discs are pressed on to the surface of ship's hull by spring coils. The disks rotate counter-clockwise while the rods turn clockwise around the centre of the device. Schematic diagram is illustrated in figure 1.

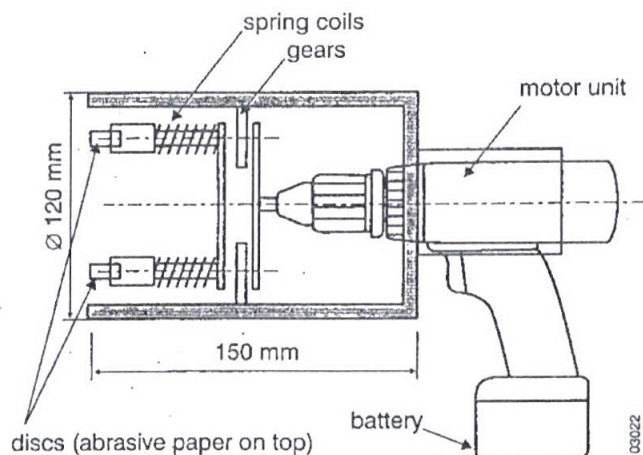


Figure 1 - Schematic diagram of sampling device

2.4 Sampling point is selected such that the anti-fouling system is intact over an area of approximately 50 cm × 50 cm or more. At each sampling point, three sets of sampling, or more if necessary, should be carried out to obtain at least six specimens.

2.5 The device is pressed on the ship's hull where it is appropriate to be sampled and held by hand. The electric motor is switched on to slide along the painted surface to lightly scrape off the fragments of the paint onto the abrasive paper. After the sample collection, each disc is removed from the device and stored in an inert container.

2.6 Sampling should normally be carried out with the sampling device. However, in the case that accessibility to the sampling point is poor, it is acceptable to collect samples with the discs by hand if necessary.

3 The first-stage analysis

3.1 The first-stage analysis is assumed to be carried out on the spot of the survey or inspection, e.g. dry docks and sea ports. In order to accomplish the on-site analysis, X-ray fluorescence analysis (XRF) is used in this method to detect total tin content.

3.2 Analytical characteristics, such as detection limit and accuracy, are highly dependent on the type of the instrument, i.e. type of X-ray tube, spectrometer, optical arrangement (filters or collimators), etc. Among several types of the XRF instruments, an energy-dispersive spectrometer with a silicon drift detector (SDD), which is compact in size and be able to be operated without liquid nitrogen, is preferable to the present analytical system for a field use, whereas wave-length dispersion system or solid-state detector are also available if the analysis carried out at laboratories.

3.3 Software customized for the tin analysis is prepared to assist the operator, who is assumed to be a ship surveyor or PSCO, to detect total tin in the specimens.

3.4 The customized software may in advance need a calibration curve of the characteristic X-ray intensity of tin in relation to the tin content particularly in the range of 0.1 to 0.5%.

3.5 After the preparation including the warming-up of the XRF instrument and starting-up of the computer, a specimen (sampling disc) is placed on the sample stage of the instrument. Afterwards, analysis is executed by the customized software. A single batch of analysis for one specimen normally takes 5 minutes and the result is shown on a display automatically.

3.6 Since the XRF analysis does not affect any properties of the specimens, all of the collected specimens (six to nine specimens), including those for the second analysis and storage, are able to be used for this analysis.

4 Interpretation of the result at the first-stage analysis

4.1 Following the procedures above, XRF data of six, or nine, specimens are obtained for each sampling point. Omitting the maximum and minimum values from the data, an average of the tin content is calculated from the intermediate values for the representing value of the sampling point.

4.2 Compliance with the Convention is assumed when none of the tin contents (average values) from the samples do not exceed the sum of the threshold (2,500 mg per kg) and a tolerance (500 mg per kg).

4.3 When one or more average values of samples from different sampling points do not meet the above criteria, the samples should be sent to a laboratory for the second stage analysis. Regardless of the results, it is also possible to undergo the second stage analysis when the surveyor or PSCO considers that it is necessary to do so.

5 Second-stage analysis

5.1 Since the second-stage analysis provides the final and definitive results of the samples, the method should be thoroughly reviewed by experts based on scientific evidence. The following is a brief summary of a tentative methodology for the second stage analysis.

5.2 The collected paint specimens are removed from the abrasive paper and total mass is measured with an electronic balance to an order of 0.1 mg. The specimens are hydrolysed with sodium hydroxide aqueous solution, extracted with organic solvent, and then derivatised with propylmagnesium bromide. After cleaning up the extract, analysis using high resolution gas chromatography/mass spectrometry (GC/MS) is carried out. For quantification analysis, tetrabutyl tin d36 is added as the internal standard.

5.3 These analyses provide the data of chemical species and their content (mg per kg of the specimens). The content of organotin is obtained in a unit of mg per kg of dry paint.

6 Compliance with the Convention

6.1 Compliance with the Convention is assumed when the results from the second-stage analysis meet the following requirements at the same time:

- .1 no more than 25% of the total number of samples yield results above 2,500 milligrams tin as organic form per kilogram dry paint (2,500 mg Sn/kg of dry paint); and
- .2 no sample of the total number of specimens shows a concentration of tin as organic form higher than the sum of the threshold value plus the tolerance range, i.e., no sample must exceed the concentration 3,000 mg Sn/kg dry paint.

6.2 When the result does not meet the above criteria, it is interpreted to mean that organotin compounds are present in the anti-fouling system at a level where they would act as a biocide.

Appendix to method 2

*Record sheet for the sampling
and analysis of anti-fouling systems
on ship hulls - organotin compounds*

Record number	
Section A: Administration	
1 Country	2 Location
3 Date	
4 Reason for survey inspection	
5 Details of the ship	
5.1 Name of ship	
5.2 Distinctive number or letters	
5.3 Gross tonnage	5.4 Year of build
5.5 Ownership or operator of ship	
5.6 Flag State	5.7 Class of ship
5.8 Authority of AFS Certificate	
5.9 Date of issue	
5.10 Date of last endorsement	
5.11 IMO number	
5.12 Name of shipmaster	
5.13 Product name of anti-fouling systems	
5.14 Name of manufacturer	
5.15 Name of shipyard where applied	
5.16 Comments	
6 Inspecting official's details	
6.1 Name	
6.2 Comments	

Record number
Section B: Sampling and stage 1 analysis (x-ray fluorescence analysis)
Date
Instrument I.D.

Sample/Location	Specimen I.D.	Sampling disc	Content of tin (mg/kg)	max	min	Average
A	A1	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	Average _____ mg/kg
	A2	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	A3	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	
	A4	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 2,500 mg/kg
	A5	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	A6	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 3,000 mg/kg
	A7	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	
	A8	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	A9	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	
B	B1	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	Average _____ mg/kg
	B2	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	B3	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	
	B4	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 2,500 mg/kg
	B5	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	B6	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 3,000 mg/kg
	B7	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	
	B8	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	B9	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	
C	C1	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	Average _____ mg/kg
	C2	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	C3	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	
	C4	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 2,500 mg/kg
	C5	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	C6	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 3,000 mg/kg
	C7	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	
	C8	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	C9	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	

Guidelines for brief sampling

Sample/Location	Specimen I.D.	Sampling disc	Content of tin (mg/kg)	max	min	Average
D	D1	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	Average _____ mg/kg <input type="checkbox"/> > 2,500 mg/kg <input type="checkbox"/> > 3,000 mg/kg
	D2	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	D3	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	
	D4	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	
	D5	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	D6	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	
	D7	<input type="checkbox"/> abrasives		<input type="checkbox"/>	<input type="checkbox"/>	
	D8	<input type="checkbox"/> metal		<input type="checkbox"/>	<input type="checkbox"/>	
	D9	<input type="checkbox"/> others		<input type="checkbox"/>	<input type="checkbox"/>	

<input type="checkbox"/> Stage II required	<input type="checkbox"/> _____ samples out of _____ are above 2,500 mg/kg	<input type="checkbox"/> Compliant
	<input type="checkbox"/> Sample _____ is above 3,000 mg/kg	
Sampled by _____		Analysed by _____
Signature _____		Signature _____

Record number

Section C: Stage II analysis (gas chromatograph mass spectrometry)

Date

Instrument I.D.

Comments on the method

Sample I. D.	Specimen used	Content of tin (XRF analysis) (mg/kg)	Content of tin (as organotin) (mg/kg)	Compliance
A				<input type="checkbox"/> > 2,500 mg/kg <input type="checkbox"/> > 3,000 mg/kg
B				<input type="checkbox"/> > 2,500 mg/kg <input type="checkbox"/> > 3,000 mg/kg
C				<input type="checkbox"/> > 2,500 mg/kg <input type="checkbox"/> > 3,000 mg/kg
D				<input type="checkbox"/> > 2,500 mg/kg <input type="checkbox"/> > 3,000 mg/kg

4 Conclusion
 Not compliant ____ samples out of ____ are above 2,500 mg(Sn)/kg (dry paint)
 Sample(s) _____ is (are) above 3,000 mg(Sn)/kg (dry paint)
 Compliant

5 Additional comments

6 Laboratory name

7 Analysed by

8 Signature

Section D: Final conclusion

1 Conclusion
 Anti-fouling system is compliant with the AFS Convention 2001
 Anti-fouling system is NOT compliant with the AFS Convention 2001

2 Comments

3 Processed official

	3.1 Name
	3.2 Date
	3.3 Signature
4 Authorized administrator	
	4.1 Name
	4.2 Date
	4.3 Signature

Resolution MEPC.105(49)

Adopted on 18 July 2003

**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 the 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 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 that Article 11(2) of the AFS Convention refers to the guidelines to be developed by the Organization and Conference resolution 2 urges the Organization to develop these guidelines as a matter of urgency for them to be adopted before the entry into force of the Convention,

NOTING FURTHER that through resolutions MEPC.102(48) and MEPC.104(49) the Organization has developed "Guidelines for survey and certification of anti-fouling systems on ships" and "Guidelines for brief sampling of anti-fouling systems on ships, respectively, and

HAVING CONSIDERED the draft Guidelines for inspection of anti-fouling systems on ships pursuant to the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001, prepared by the Subcommittee on Flag State implementation at its eleventh session,

1. ADOPTS the Guidelines for inspection of anti-fouling systems on ships pursuant to the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001, as set out in the annex to this resolution;
2. INVITES Governments to apply the Guidelines as soon as possible, or when the Convention becomes applicable to them; and
3. RECOMMENDS that the Guidelines be adopted as amendments to resolution A.787(19) on Procedures for port State control, as further amended by resolution A.882(21) once the AFS Convention has entered into force and that the Guidelines be reviewed on a regular basis.

Annex

Guidelines for inspection of anti-fouling systems on ships

PART 1

Port State control inspections of anti-fouling systems on ships are governed by Article 11 of the AFS Convention. The process for conducting these inspections is described below. The flow diagram in the Appendix to this annex also describes the AFS port State inspection process.

SUB-PART 1

INSPECTION OF INTERNATIONAL ANTI-FOULING SYSTEM (IAFS) CERTIFICATE OR DECLARATION ON ANTI-FOULING SYSTEM

1 Ships required to carry an IAFS Certificate or Declaration on Anti-Fouling System

1. On boarding and introduction to the master or responsible ship's officer, the port State control officer (PSCO) should examine the IAFS Certificate or Declaration on Anti-Fouling System, and the attached Record of Anti-Fouling Systems, if appropriate.
2. The IAFS Certificate carries the information on the particulars of the ship and a series of checkboxes to indicate if an anti-fouling system controlled under annex I of AFS 2001 has or has not been applied, removed or been covered with a sealer coat, and if an anti-fouling system controlled under annex I of AFS 2001 was applied on the ship prior to or after the date specified in AFS 2001.
3. As a preliminary check, the validity of the IAFS Certificate should be confirmed by verifying that the IAFS Certificate is properly completed and signed/endorsed by the Administration, or by a recognized organization (RO) and stating that the required survey has been performed. In reviewing the IAFS Certificate, particular attention should be given to verifying that the initial survey matches the dry dock period listed in the ship's log(s) and that only one box should be marked.

- .4 The Record of Anti-Fouling Systems should be inspected to ensure that the records are attached to the IAFS Certificate and are up to date. The most recent Record must correlate with the correct checkbox on the front of the IAFS Certificate.

2 Ships of non-Parties to AFS 2001

- .1 As ships of non-Parties to AFS 2001 are not entitled to an IAFS Certificate, the PSCO should look for documentation that contains all of the information in the IAFS Certificate. The records described in resolution MEPC.102(48), paragraphs 5.2.2 and 5.3.2 can be used as examples of this types of documentation. If the ship has such documentation, the PSCO may take its content into account in the evaluation of that ship's compliance.
- .2 In all other respects the PSCO should be guided by the procedures for ships referred to in paragraph 1 above (Ships required to carry an IAFS Certificate).

SUB-PART 2

BRIEF SAMPLING OF ANTI-FOULING SYSTEMS ON SHIPS

1 In addition to reviewing the IAFS Certificate, the AFS 2001 specifies that the inspection may also include a brief sampling of the ship's anti-fouling system. The sampling must not affect the integrity, structure, or operation of the anti-fouling system, taking into account the guidelines contained in resolution MEPC.104(49).

2 If a brief sampling is conducted, the time to process the results shall not be used as a basis for preventing the movement and departure of the ship.

PART 2

MORE THOROUGH INSPECTION

1 If the results of the inspection, observations on board, or other information leads to clear grounds for believing that the ship is in violation of the AFS 2001, or if the anti-fouling system does not correspond substantially with the particulars of the IAFS Certificate, a more thorough inspection may be carried out taking into account any of the following steps.

- 2 Inspection of additional documentation, to include:
 - .1 ship's logs, including entries regarding:
 - .1 date of last repair, drydock or application of anti-fouling system, date of departure from location;
 - .2 current port and date of arrival; and
 - .3 ship's position at or near the time the boarding took place; and
 - .2 inspection of additional documentation described in paragraphs 5.2.2 and 5.2.3 of resolution MEPC.102(48).

3 If appropriate, spot check dates of last hull coating matches date in drydock?

4 If the IAFS Certificate is not properly completed, information on the following questions may be pertinent:

- .1 "When was the last time the ship's anti-fouling system was applied?";
- .2 "If the anti-fouling system is controlled under Annex 1 to AFS 2001 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 of AFS 2001 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?";

5 Performing additional verification, for example, more comprehensive sampling and analysis of the ship's anti-fouling system. Such sampling and analysis will likely be more detailed and comprehensive than the brief inspection that may be carried out during the initial port State control inspection, and may involve the use of laboratories and detailed scientific testing procedures. Refer to the guidelines in resolution MEPC.104(49) when conducting these additional samples or analyses.

6 Additional information available to the PSCO, depending on the circumstances of the case, such as reports of recent previous violations or alleged contraventions received from other port States.

PART 3

PORT STATE ACTION IN RESPONSE TO ALLEGED CONTRAVENTIONS

1 Article 11(4) of AFS 2001 allows Parties to inspect ships on request of another Party, if a request for an investigation is received and sufficient evidence that the ship is operating or has operated in violation of the Convention is provided. Article 12(2) permits port States conducting inspection to furnish the Administration of the ship concerned such information and evidence as may be in its possession that a violation has occurred. Experience has shown that information furnished to the flag State is often inadequate to enable the flag State to cause proceedings to be brought in respect of the alleged violation of the AFS 2001 requirements. This part is intended to identify information which is often needed by a flag State for the prosecution of such possible violations.

2 It is recommended that in preparing a port State report on deficiencies, where contravention to AFS 2001 requirements is involved, the authorities of the coastal or port State be guided by the itemized list of possible evidence as shown in part 2. It should be borne in mind in this connection that:

- .1 the report aims to provide the optimal collation of obtainable data; however, even if all the information cannot be provided, as much information as possible should be submitted; and
- .2 it is important for all the information included in the report to be supported by facts which, when considered as a whole, would lead the port or coastal State to believe a contravention had occurred.

3 In addition to the port State report on deficiencies, a report should be completed by a port or coastal State, on the basis of the itemized list of possible evidence. It is important that these reports are supplemented by documents such as:

- .1 a statement by the PSCO of the suspected non-conforming anti-fouling system. In addition to the information required in part 2, the statement should include considerations which lead the PSCO to carry out a more detailed inspection;
- .2 statements concerning any sampling procedures of the anti-fouling system. These should include: location of the vessel at the time it was sampled as well as an indication of where the sample was taken from the hull, including the vertical distance from the boot topping, the time of sampling, identity of person(s) taking the samples, and receipts identifying the persons having custody and receiving transfer of the samples;
- .3 reports of analyses of any samples taken of the anti-fouling system; the reports should include the results of the analyses, a description of the method employed, reference to or copies of scientific documentation attesting to the accuracy and validity of the method employed, the names of persons performing the analyses and their experience and a description of the quality assurance measures of the analyses;
- .4 a statement by the PSCO on board together with the PSCO's rank and organization;
- .5 statements by persons being questioned;
- .6 statements by witnesses;
- .7 photographs of the hull and sample areas; and
- .8 copy of the IAFS Certificate, including copies of relevant pages of the Record of Anti-fouling Systems, log books, 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, etc.

4 All observations, photographs and documentation should be supported by a signed verification of their authenticity. All certifications, authentications or verifications should be executed in accordance with the laws of the State which prepares them. All statements should be signed and dated by the person making the statement. The names of the persons signing statements should be printed in legible script above or below the signature.

5 The reports referred to under paragraphs 2 and 3 of this part 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 State carrying out the latter investigation should also send a copy of its findings to the State which initiated the investigation.

PART 4

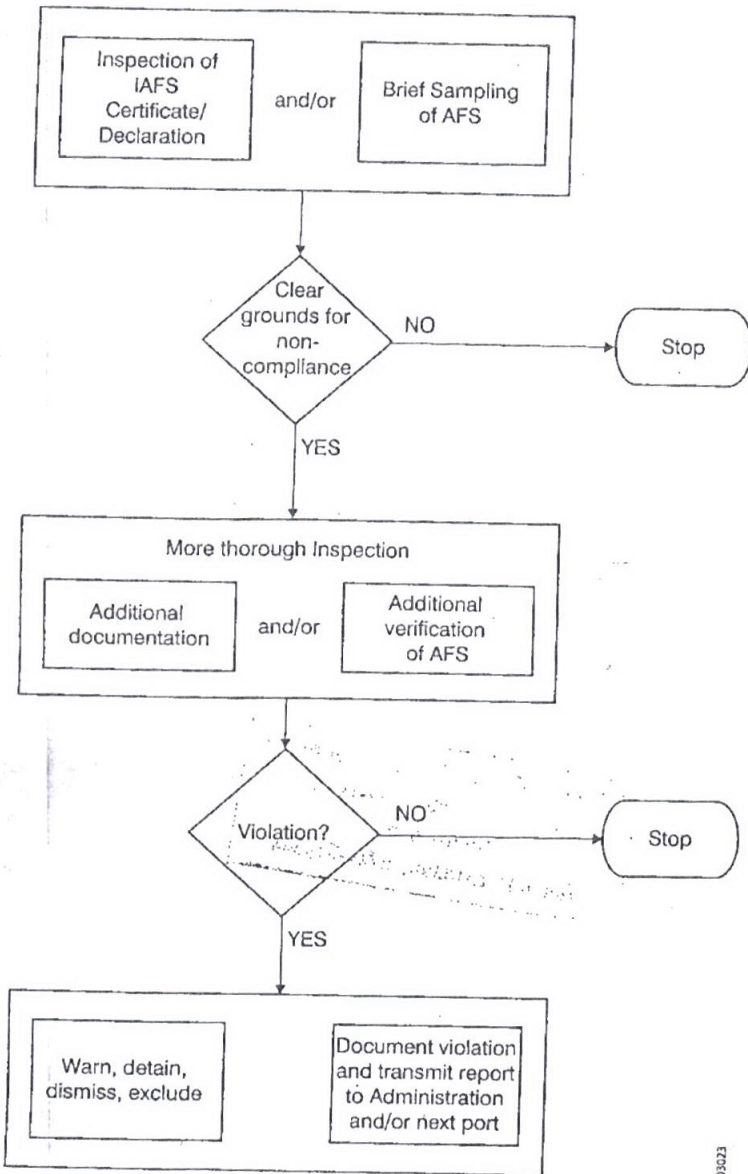
RESPONSIBILITIES OF PORT STATE TO NOTIFY THE CONTRAVENTION TO THE FLAG STATE

1 Article 11(3) of AFS 2001 states that any time a ship is warned or detained, or is 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 concerned. The form in appendix 5 should be used to inform the flag Administration. In the event that the deficiencies identified by the PSCO cannot be corrected in the port of inspection and the ship is allowed to sail from that port, the guidance in paragraph 4.7.3 and the forms in appendices 6 and 7 should be used.

KENYA MARITIME AUTHORITY
P. O. Box 95076 - 80104,
MOMBASA
Tel: 041-2318398, 0724-319244

Appendix

AFS port State inspection process



ETD/0

CONFERENCE RESOLUTIONS

Resolution 1

EXPRESSIONS OF APPRECIATION

THE CONFERENCE,

NOTING with appreciation the kind invitation of the Government of Kenya to the International Maritime Organization to hold the Conference in Nairobi,

ACKNOWLEDGING the generous financial and in-kind contribution and excellent arrangements made by the Government of Kenya for the Conference, as well as the hospitality and other amenities bestowed on the participants to the Conference by the Government and the People of Kenya,

ACKNOWLEDGING FURTHER the excellent facilities provided by the United Nations Office at Nairobi (UNON), which greatly facilitated the efficient conduct of the Conference,

1. EXPRESSES its profound gratitude and thanks to the Government and the People of Kenya for their valuable contribution to the success of the Conference;

2. DECIDES, in grateful recognition of this contribution, to designate the Convention adopted by the Conference as the:

NAIROBI INTERNATIONAL CONVENTION ON THE
REMOVAL OF WRECKS, 2007;

3. EXPRESSES FURTHER its thanks to UNON for the facilities provided.

19 This Final Act is established in a single original text in the Arabic, Chinese, English, French, Russian and Spanish languages, which is to be deposited with the Secretary-General of the Organization.

20 The Secretary-General shall send certified 33 copies of this Final Act with its Attachment, and certified copies of the authentic text of the instrument referred to in paragraph 17 above, to the Governments of the States invited to be represented at the Conference.

IN WITNESS WHEREOF the undersigned* have affixed their signatures to this Final Act.

DONE IN NAIROBI this eighteenth day of May, two thousand and seven.

* Signatures omitted.

14 The officers elected for the Committees were as follows:

Committee of the Whole:

Chairman: Mr. Jan Engel de Boer (Netherlands)
First Vice-Chairman: Mr. Kofi Mbiah (Ghana)
Second Vice-Chairman: H.E. Mr. Julio César González Marchante (Cuba)

Drafting Committee:

Chairman: Mr. Marc Gauthier (Canada)
Vice-Chairperson: Mrs. Tang Guomei (China)

Credentials Committee:

Chairman: Mr. George M. Arku (Liberia)

15 The Conference used, as the basis of its work, a draft convention on the removal of wrecks prepared by the IMO Legal Committee.

16 Also before the Conference were a number of documents containing proposals and comments submitted by Governments and interested organizations on the above-mentioned draft text.

17 As a result of its deliberations, the Conference adopted the following instrument:

NAIROBI INTERNATIONAL CONVENTION ON THE
REMOVAL OF WRECKS, 2007

18 The Conference also adopted the following resolutions contained in the Attachment to this Final Act:

- 1 RESOLUTION ON EXPRESSIONS OF APPRECIATION
- 2 RESOLUTION ON COMPULSORY INSURANCE CERTIFICATES UNDER EXISTING MARITIME LIABILITY CONVENTIONS, INCLUDING THE NAIROBI INTERNATIONAL CONVENTION ON THE REMOVAL OF WRECKS, 2007
- 3 RESOLUTION ON PROMOTION OF TECHNICAL CO-OPERATION AND ASSISTANCE

- 9 The Vice-Presidents elected by the Conference were:
Admiral Miguel Angelo Davena (Brazil)
Mr. Eddy Pratomo (Indonesia)
H.E. Mr. Rafal Wiechecki (Poland)
Mr. Jassim Mohamed Al-Manai (Qatar)
Prof. Lee-Sik Chai (Republic of Korea)
- 10 The Secretariat of the Conference consisted of the following officers:
- | | |
|--------------------------------|---|
| Secretary-General: | Mr. E.E. Mitropoulos
Secretary-General of the Organization |
| Executive Secretary: | Dr. R.P. Balkin
Director, Legal Affairs and
External Relations Division |
| Deputy Executive
Secretary: | Mr. A. Blanco-Bazán
Senior Deputy Director/Head,
Sub-Division for Legal Affairs
Legal Affairs and External Relations
Division |
- 11 The Conference established a Committee of the Whole with the mandate to consider a draft convention on the removal of wrecks.
- 12 A Drafting Committee established by the Conference was composed of representatives of the following eight States:
- CANADA
CHINA
EGYPT
FRANCE
MEXICO
RUSSIAN FEDERATION
SPAIN
UNITED KINGDOM
- 13 A Credentials Committee was appointed to examine the credentials of representatives attending the Conference. The Committee was composed of representatives of the following five States:
- BELGIUM
LIBERIA
MADAGASCAR
MALAYSIA
VENEZUELA

NORWAY
PAPUA NEW GUINEA
PHILIPPINES
POLAND
PORTUGAL
QATAR
REPUBLIC OF KOREA
RUSSIAN FEDERATION
SAUDI ARABIA
SINGAPORE
SOMALIA
SOUTH AFRICA
SPAIN

SWEDEN
TURKEY
UKRAINE
UNITED KINGDOM OF
GREAT BRITAIN AND
NORTHERN IRELAND
UNITED REPUBLIC OF
TANZANIA
UNITED STATES OF
AMERICA
VANUATU
VENEZUELA

4 Hong Kong, China, an Associate Member of the Organization, sent observers to the Conference.

5 The International Tribunal for the Law of the Sea (ITLOS) sent an observer to the Conference.

6 The following intergovernmental organizations sent observers to the Conference:

INTERNATIONAL OIL POLLUTION COMPENSATION FUNDS (IOPC FUNDS)
REGIONAL ORGANIZATION FOR THE CONSERVATION OF THE ENVIRONMENT OF THE RED SEA AND GULF OF ADEN (PERSGA)
PORT MANAGEMENT ASSOCIATION OF EASTERN AND SOUTHERN AFRICA (PMAESA)

7 The following non-governmental international organizations sent observers to the Conference:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
INTERNATIONAL SALVAGE UNION (ISU)
INTERNATIONAL GROUP OF P & I ASSOCIATIONS (P & I CLUBS)

8 The Honourable Chirau Ali Mwakwere, Head of the delegation of Kenya, was elected President of the Conference.

**FINAL ACT OF THE INTERNATIONAL CONFERENCE
ON THE REMOVAL OF WRECKS, 2007**

1 In accordance with Article 2(b) of the Convention on the International Maritime Organization, and pursuant to a decision of the Assembly of the Organization at its twenty-third regular session, as reflected in resolution A.942(23) of 5 December 2003, and subsequently endorsed by the Assembly at its twenty-fourth regular session, as reflected in resolution A.969(24) of 28 November 2005, the Council of the Organization decided at its ninety-sixth session, in June 2006, to convene a diplomatic conference to consider the adoption of a convention on the removal of wrecks in Nairobi, Kenya, in May 2007.

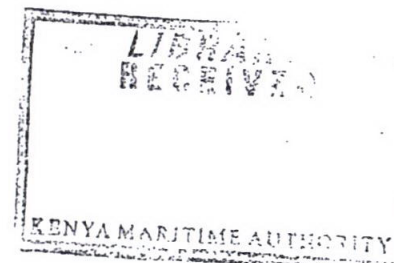
2 The Conference was held at the Headquarters of the United Nations Office at Nairobi (UNON), Kenya, from 14 to 18 May 2007.

3 Representatives of 64 States participated in the Conference, namely the representatives of:

ALGERIA	GHANA
ANTIGUA AND BARBUDA	GREECE
ARGENTINA	INDIA
AUSTRALIA	INDONESIA
BAHAMAS	IRAN (ISLAMIC REPUBLIC OF)
BANGLADESH	IRELAND
BELGIUM	ITALY
BENIN	JAPAN
BRAZIL	KENYA
BULGARIA	KUWAIT
BURUNDI	LATVIA
CANADA	LIBERIA
CHILE	LITHUANIA
CHINA	MADAGASCAR
CUBA	MALAYSIA
CYPRUS	MALTA
DENMARK	MAURITIUS
EGYPT	MEXICO
ESTONIA	MOROCCO
FINLAND	NETHERLANDS
FRANCE	NIGERIA
GERMANY	

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Foreword

The Nairobi International Convention on the Removal of Wrecks, 2007 was adopted on 18 May 2007 by the International Conference on the Removal of Wrecks convened by the International Maritime Organization (IMO) at the Headquarters of the United Nations Office at Nairobi (UNON), from 14 to 18 May 2007.

The Convention provides the legal basis to enable States to remove, or have removed, from their coastlines and waters around their coasts, wrecks posing a hazard to the safety of shipping or to the marine environment. To achieve these objectives, the new treaty includes provisions on the reporting and locating of ships and wrecks and criteria for determining the hazard posed by wrecks, including assessment of damage to the marine environment. It also regulates measures to facilitate the removal of wrecks, as well as the liability of the owner for the costs of locating, marking and removing of ships and wrecks. The registered shipowner is required to maintain compulsory insurance or other financial security to cover liability under the Convention.

The Convention will enter into force twelve months following the date on which ten States have either signed it without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with the IMO Secretary-General.

The Conference also adopted the following resolutions:

1. Resolution on expressions of appreciation;
2. Resolution on compulsory insurance certificates under existing maritime liability conventions, including the Nairobi International Convention on the Removal of Wrecks, 2007; and
3. Resolution on promotion of technical co-operation and assistance.

This publication reproduces the texts of the Final Act of the International Conference on the Removal of Wrecks, the Nairobi International Convention on the Removal of Wrecks, 2007 and the three resolutions adopted by the Conference.

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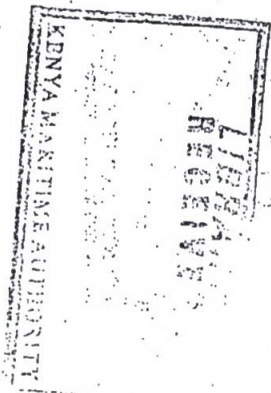


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Nairobi International Convention on the
Removal of Wrecks, 2007

2008 Edition



INTERNATIONAL
MARITIME
ORGANIZATION
London, 2008

Resolution 2

**COMPULSORY INSURANCE CERTIFICATES
UNDER EXISTING MARITIME LIABILITY
CONVENTIONS, INCLUDING THE NAIROBI
INTERNATIONAL CONVENTION ON THE
REMOVAL OF WRECKS, 2007**

THE CONFERENCE,

HAVING ADOPTED the Nairobi International Convention on the Removal of Wrecks, 2007 (hereinafter referred to as "the Convention"),

NOTING that the Convention requires that a compulsory insurance certificate attesting that insurance or other financial security is in force on the same basis as previously established IMO liability and compensation conventions,

MINDFUL that all existing liability and compensation conventions require that a compulsory insurance certificate attesting that insurance or other financial security is in force, shall be issued in the form of the model set out in the specific annexes to these conventions,

RECOGNIZING the reduction of administrative costs and further facilitation as regards the issuing of all relevant compulsory insurance certificates by appropriate authorities in States Parties, if in future each and every ship could be provided with a single compulsory insurance certificate,

NOTING FURTHER the urgent priority to implement all the existing liability and compensation conventions,

1. URGES States to ensure, as a matter of priority, the entry into force of the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001, and the Protocol to the Athens Convention Relating to the Carriage of Passengers and their Luggage by Sea, 2002;

Resolution 2

2. INVITES the International Maritime Organization (IMO) and in particular the Legal Committee to develop a model for a single insurance certificate which may be issued by States Parties in respect of each and every ship under their flag; IMO liability and compensation conventions including the Convention;

3. INVITES FURTHER IMO to follow the same procedure as that adopted in relation to the reciprocal recognition of certificates by States Parties to the 1969 and 1992 International Conventions on Civil Liability for Oil Pollution Damage;

Resolution 3

PROMOTION OF TECHNICAL CO-OPERATION AND ASSISTANCE

THE CONFERENCE,

HAVING ADOPTED the Nairobi International Convention on the Removal of Wrecks, 2007 (hereinafter referred to as "the Convention"), concerning uniform international rules and procedures to ensure the prompt and effective removal of wrecks and payment of compensation for the costs therein involved,

RECOGNIZING the need for the development of appropriate legislation and the putting in place of appropriate infrastructure for the removal of wrecks which may pose a danger or impediment to navigation, or may reasonably be expected to result in major harmful consequences to the marine environment, or damage to the coastline or related interests of one or more States,

RECOGNIZING FURTHER that there may be limited infrastructure, facilities and training programmes for obtaining the experience required in assessing the hazard which a wreck may pose, particularly in developing countries,

BELIEVING that the promotion of technical co-operation at the international level will assist those States not yet having adequate expertise or facilities for providing training and experience to assess, put in place or enhance appropriate infrastructure and, in general, implement the measures required by the Convention,

EMPHASIZING, in this regard, the grave threat a wreck can pose to the safety of navigation and to the marine environment, or both, if not removed promptly and effectively,

1. URGES States Parties to the Convention, Member States of the International Maritime Organization (IMO), other appropriate organizations and the maritime industry to provide assistance, either directly or through IMO, to those States which require support in the consideration of adoption and in the implementation of the Convention;

2. INVITES the Secretary-General of IMO to make adequate provision in its Integrated Technical Co-operation Programme (ITCP) for advisory services related to the adoption and effective implementation of the Convention and, in particular, to address requests for assistance in assessing the safety and environmental hazards of wrecks and in developing appropriate national legislation;

3. INVITES States Parties to the Convention, Member States of IMO, other appropriate organizations and the maritime industry to provide financial and in-kind support to IMO for technical assistance activities related to the adoption and effective implementation of the Convention.

**NAIROBI INTERNATIONAL CONVENTION
ON THE REMOVAL OF WRECKS, 2007**

THE STATES PARTIES TO THE PRESENT CONVENTION,

CONSCIOUS of the fact that wrecks, if not removed, may pose a hazard to navigation or the marine environment,

CONVINCED of the need to adopt uniform international rules and procedures to ensure the prompt and effective removal of wrecks and payment of compensation for the costs therein involved,

NOTING that many wrecks may be located in States' territory, including the territorial sea,

RECOGNIZING the benefits to be gained through uniformity in legal regimes governing responsibility and liability for removal of hazardous wrecks,

BEARING IN MIND the importance of the United Nations Convention on the Law of the Sea, done at Montego Bay on 10 December 1982, and of the customary international law of the sea, and the consequent need to implement the present Convention in accordance with such provisions,

HAVE AGREED as follows:

Article 1

Definitions

For the purposes of this Convention:

1 *Convention area* means the exclusive economic zone of a State Party, established in accordance with international law or, if a State Party has not established such a zone, an area beyond and adjacent to the territorial sea of that State determined by that State in accordance with international law and extending not more than 200 nautical miles from the baselines from which the breadth of its territorial sea is measured.

2 *Ship* means a seagoing vessel of any type whatsoever and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and

floating platforms, except when such platforms are on location engaged in the exploration, exploitation or production of sea-bed mineral resources.

3 *Maritime casualty* means a collision of ships, stranding or other incident of navigation, or other occurrence on board a ship or external to it, resulting in material damage or imminent threat of material damage to a ship or its cargo.

4 *Wreck*, following upon a maritime casualty, means:

- (a) a sunken or stranded ship; or
- (b) any part of a sunken or stranded ship, including any object that is or has been on board such a ship; or
- (c) any object that is lost at sea from a ship and that is stranded, sunken or adrift at sea; or
- (d) a ship that is about, or may reasonably be expected, to sink or to strand, where effective measures to assist the ship or any property in danger are not already being taken.

5 *Hazard* means any condition or threat that:

- (a) poses a danger or impediment to navigation; or
- (b) may reasonably be expected to result in major harmful consequences to the marine environment, or damage to the coastline or related interests of one or more States.

6 *Related interests* means the interests of a coastal State directly affected or threatened by a wreck, such as:

- (a) maritime coastal, port and estuarine activities, including fisheries activities, constituting an essential means of livelihood of the persons concerned;
- (b) tourist attractions and other economic interests of the area concerned;
- (c) the health of the coastal population and the wellbeing of the area concerned, including conservation of marine living resources and of wildlife; and
- (d) offshore and underwater infrastructure.

7 *Removal* means any form of prevention, mitigation or elimination of the hazard created by a wreck. *Remove*, *removed* and *removing* shall be construed accordingly.

8 *Registered owner* means the person or persons registered as the owner of the ship or, in the absence of registration, the person or persons owning the ship at the time of the maritime casualty. However, in the case of a ship owned by a State and operated by a company which in that State is registered as the operator of the ship, *registered owner* shall mean such company.

9 *Operator of the ship* means the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the owner of the ship and who, on assuming such responsibility, has agreed to take over all duties and responsibilities established under the International Safety Management Code, as amended.

10 *Affected State* means the State in whose Convention area the wreck is located.

11 *State of the ship's registry* means, in relation to a registered ship, the State of registration of the ship and, in relation to an unregistered ship, the State whose flag the ship is entitled to fly.

12 *Organization* means the International Maritime Organization.

13 *Secretary-General* means the Secretary-General of the Organization.

Article 2

Objectives and general principles

1 A State Party may take measures in accordance with this Convention in relation to the removal of a wreck which poses a hazard in the Convention area.

2 Measures taken by the Affected State in accordance with paragraph 1 shall be proportionate to the hazard.

3 Such measures shall not go beyond what is reasonably necessary to remove a wreck which poses a hazard and shall cease as soon as the wreck has been removed; they shall not unnecessarily interfere with the rights and interests of other States including the State of the ship's registry, and of any person, physical or corporate, concerned.

4 The application of this Convention within the Convention area shall not entitle a State Party to claim or exercise sovereignty or sovereign rights over any part of the high seas.

5 States Parties shall endeavour to co-operate when the effects of a maritime casualty resulting in a wreck involve a State other than the Affected State.

Article 3

Scope of application

1 Except as otherwise provided in this Convention, this Convention shall apply to wrecks in the Convention area.

2 A State Party may extend the application of this Convention to wrecks located within its territory, including the territorial sea, subject to article 4, paragraph 4. In that case, it shall notify the Secretary-General accordingly, at the time of expressing its consent to be bound by this Convention or at any time thereafter. When a State Party has made a notification to apply this Convention to wrecks located within its territory, including the territorial sea, this is without prejudice to the rights and obligations of that State to take measures in relation to wrecks located in its territory, including the territorial sea, other than locating, marking and removing them in accordance with this Convention. The provisions of articles 10, 11 and 12 of this Convention shall not apply to any measures so taken other than those referred to in articles 7, 8 and 9 of this Convention.

3 When a State Party has made a notification under paragraph 2, the Convention area of the Affected State shall include the territory, including the territorial sea, of that State Party.

4 A notification made under paragraph 2 above shall take effect for that State Party, if made before entry into force of this Convention for that State Party, upon entry into force. If notification is made after entry into force of this Convention for that State Party, it shall take effect six months after its receipt by the Secretary-General.

5 A State Party that has made a notification under paragraph 2 may withdraw it at any time by means of a notification of withdrawal to the Secretary-General. Such notification of withdrawal shall take effect six months after its receipt by the Secretary-General, unless the notification specifies a later date.

Article 4

Exclusions

1 This Convention shall not apply to measures taken under the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969, as amended, or the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973, as amended.

2 This Convention shall not apply to any warship or other ship owned or operated by a State and used, for the time being, only on Government non-commercial service, unless that State decides otherwise.

3 Where a State Party decides to apply this Convention to its warships or other ships as described in paragraph 2, it shall notify the Secretary-General, thereof, specifying the terms and conditions of such application.

4 (a) When a State Party has made a notification under article 3, paragraph 2, the following provisions of this Convention shall not apply in its territory, including the territorial sea:

(i) Article 2, paragraph 4;

(ii) Article 9, paragraphs 1, 5, 7, 8, 9 and 10; and

(iii) Article 15.

(b) Article 9, paragraph 4, insofar as it applies to the territory, including the territorial sea of a State Party, shall read:

Subject to the national law of the Affected State, the registered owner may contract with any salvor or other person to remove the wreck determined to constitute a hazard on behalf of the owner. Before such removal commences, the Affected State may lay down conditions for such removal only to the extent necessary to ensure that the removal proceeds in a manner that is consistent with considerations of safety and protection of the marine environment.

Article 5

Reporting wrecks

1 A State Party shall require the master and the operator of a ship flying its flag to report to the Affected State without delay when that ship has been involved in a maritime casualty resulting in a wreck. To the extent that the reporting obligation under this article has been fulfilled either by

the master or the operator of the ship, the other shall not be obliged to report.

2 Such reports shall provide the name and the principal place of business of the registered owner and all the relevant information necessary for the Affected State to determine whether the wreck poses a hazard in accordance with article 6, including:

- (a) the precise location of the wreck;
- (b) the type, size and construction of the wreck;
- (c) the nature of the damage to, and the condition of, the wreck;
- (d) the nature and quantity of the cargo, in particular any hazardous and noxious substances; and
- (e) the amount and types of oil, including bunker oil and lubricating oil, on board.

Article 6

Determination of hazard

When determining whether a wreck poses a hazard, the following criteria should be taken into account by the Affected State:

- (a) the type, size and construction of the wreck;
- (b) depth of the water in the area;
- (c) tidal range and currents in the area;
- (d) particularly sensitive sea areas identified and, as appropriate, designated in accordance with guidelines adopted by the Organization, or a clearly defined area of the exclusive economic zone where special mandatory measures have been adopted pursuant to article 211, paragraph 6, of the United Nations Convention on the Law of the Sea, 1982;
- (e) proximity of shipping routes or established traffic lanes;
- (f) traffic density and frequency;
- (g) type of traffic;
- (h) nature and quantity of the wreck's cargo, the amount and types of oil (such as bunker oil and lubricating oil) on board the wreck and, in particular, the damage likely to result should the cargo or oil be released into the marine environment;
- (i) vulnerability of port facilities;

- (j) prevailing meteorological and hydrographical conditions;
- (k) submarine topography of the area;
- (l) height of the wreck above or below the surface of the water at lowest astronomical tide;
- (m) acoustic and magnetic profiles of the wreck;
- (n) proximity of offshore installations, pipelines, telecommunications cables and similar structures; and
- (o) any other circumstances that might necessitate the removal of the wreck.

Article 7

Locating wrecks

1 Upon becoming aware of a wreck, the Affected State shall use all practicable means, including the good offices of States and organizations, to warn mariners and the States concerned of the nature and location of the wreck as a matter of urgency.

2 If the Affected State has reason to believe that a wreck poses a hazard, it shall ensure that all practicable steps are taken to establish the precise location of the wreck.

Article 8

Marking of wrecks

1 If the Affected State determines that a wreck constitutes a hazard, that State shall ensure that all reasonable steps are taken to mark the wreck.

2 In marking the wreck, all practicable steps shall be taken to ensure that the markings conform to the internationally accepted system of buoyage in use in the area where the wreck is located.

3 The Affected State shall promulgate the particulars of the marking of the wreck by use of all appropriate means, including the appropriate nautical publications.

Article 9

Measures to facilitate the removal of wrecks

1 If the Affected State determines that a wreck constitutes a hazard, that State shall immediately:

- (a) inform the State of the ship's registry and the registered owner; and
- (b) proceed to consult the State of the ship's registry and other States affected by the wreck regarding measures to be taken in relation to the wreck.

2 The registered owner shall remove a wreck determined to constitute a hazard.

3 When a wreck has been determined to constitute a hazard, the registered owner, or other interested party, shall provide the competent authority of the Affected State with evidence of insurance or other financial security as required by article 12.

4 The registered owner may contract with any salvor or other person to remove the wreck determined to constitute a hazard on behalf of the owner. Before such removal commences, the Affected State may lay down conditions for such removal only to the extent necessary to ensure that the removal proceeds in a manner that is consistent with considerations of safety and protection of the marine environment.

5 When the removal referred to in paragraphs 2 and 4 has commenced, the Affected State may intervene in the removal only to the extent necessary to ensure that the removal proceeds effectively in a manner that is consistent with considerations of safety and protection of the marine environment.

6 The Affected State shall:

- (a) set a reasonable deadline within which the registered owner must remove the wreck, taking into account the nature of the hazard determined in accordance with article 6;
- (b) inform the registered owner in writing of the deadline it has set and specify that, if the registered owner does not remove the wreck within that deadline, it may remove the wreck at the registered owner's expense; and

- (c) inform the registered owner in writing that it intends to intervene immediately in circumstances where the hazard becomes particularly severe.

7 If the registered owner does not remove the wreck within the deadline set in accordance with paragraph 6(a), or the registered owner cannot be contacted, the Affected State may remove the wreck by the most practical and expeditious means available, consistent with considerations of safety and protection of the marine environment.

8 In circumstances where immediate action is required and the Affected State has informed the State of the ship's registry and the registered owner accordingly, it may remove the wreck by the most practical and expeditious means available, consistent with considerations of safety and protection of the marine environment.

9 States Parties shall take appropriate measures under their national law to ensure that their registered owners comply with paragraphs 2 and 3.

10 States Parties give their consent to the Affected State to act under paragraphs 4 to 8, where required.

11 The information referred to in this article shall be provided by the Affected State to the registered owner identified in the reports referred to in article 5, paragraph 2.

Article 10

Liability of the owner

1 Subject to article 11, the registered owner shall be liable for the costs of locating, marking and removing the wreck under articles 7, 8 and 9, respectively, unless the registered owner proves that the maritime casualty that caused the wreck:

- (a) resulted from an act of war, hostilities, civil war, insurrection, or a natural phenomenon of an exceptional, inevitable and irresistible character;
- (b) was wholly caused by an act or omission done with intent to cause damage by a third party; or
- (c) was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function.

2 Nothing in this Convention shall affect the right of the registered owner to limit liability under any applicable national or international regime, such as the Convention on Limitation of Liability for Maritime Claims, 1976, as amended.

3 No claim for the costs referred to in paragraph 1 may be made against the registered owner otherwise than in accordance with the provisions of this Convention. This is without prejudice to the rights and obligations of a State Party that has made a notification under article 3, paragraph 2, in relation to wrecks located in its territory, including the territorial sea, other than locating, marking and removing in accordance with this Convention.

4 Nothing in this article shall prejudice any right of recourse against third parties.

Article 11

Exceptions to liability

1 The registered owner shall not be liable under this Convention for the costs mentioned in article 10, paragraph 1 if, and to the extent that, liability for such costs would be in conflict with:

- (a) the International Convention on Civil Liability for Oil Pollution Damage, 1969, as amended;
- (b) the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996, as amended;
- (c) the Convention on Third Party Liability in the Field of Nuclear Energy, 1960, as amended, or the Vienna Convention on Civil Liability for Nuclear Damage, 1963, as amended; or national law governing or prohibiting limitation of liability for nuclear damage; or
- (d) the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001, as amended;

provided that the relevant convention is applicable and in force.

2 To the extent that measures under this Convention are considered to be salvage under applicable national law or an international convention, such law or convention shall apply to questions of the remuneration or compensation payable to salvors to the exclusion of the rules of this Convention.

Article 12

Compulsory insurance or other financial security

1 The registered owner of a ship of 300 gross tonnage and above and flying the flag of a State Party shall be required to maintain insurance or other financial security, such as a guarantee of a bank or similar institution, to cover liability under this Convention in an amount equal to the limits of liability under the applicable national or international limitation regime, but in all cases not exceeding an amount calculated in accordance with article 6(1)(b) of the Convention on Limitation of Liability for Maritime Claims, 1976, as amended.

2 A certificate attesting that insurance or other financial security is in force in accordance with the provisions of this Convention shall be issued to each ship of 300 gross tonnage and above by the appropriate authority of the State of the ship's registry after determining that the requirements of paragraph 1 have been complied with. With respect to a ship registered in a State Party, such certificate shall be issued or certified by the appropriate authority of the State of the ship's registry; with respect to a ship not registered in a State Party it may be issued or certified by the appropriate authority of any State Party. This compulsory insurance certificate shall be in the form of the model set out in the annex to this Convention, and shall contain the following particulars:

- (a) name of the ship, distinctive number or letters and port of registry;
- (b) gross tonnage of the ship;
- (c) name and principal place of business of the registered owner;
- (d) IMO ship identification number;
- (e) type and duration of security;
- (f) name and principal place of business of insurer or other person giving security and, where appropriate, place of business where the insurance or security is established; and
- (g) period of validity of the certificate, which shall not be longer than the period of validity of the insurance or other security.

3 (a) A State Party may authorize either an institution or an organization recognized by it to issue the certificate referred to in paragraph 2. Such institution or organization shall inform that State of the issue of each certificate. In all cases, the State Party shall fully guarantee the completeness and accuracy of the

certificate so issued and shall undertake to ensure the necessary arrangements to satisfy this obligation.

(b) A State Party shall notify the Secretary-General of:

(i) the specific responsibilities and conditions of the authority delegated to an institution or organization recognized by it;

(ii) the withdrawal of such authority; and

(iii) the date from which such authority or withdrawal of such authority takes effect.

An authority delegated shall not take effect prior to three months from the date on which notification to that effect was given to the Secretary-General.

(c) The institution or organization authorized to issue certificates in accordance with this paragraph shall, as a minimum, be authorized to withdraw these certificates if the conditions under which they have been issued are no longer maintained. In all cases the institution or organization shall report such withdrawal to the Secretary-General.

4. The certificate shall be in the official language or languages of the issuing State. If the language used is not English, French or Spanish, the text shall include a translation into one of these languages and where the State so decides, the official language(s) of the State may be omitted.

5. The certificate shall be entered on board the ship, and a copy shall be deposited with the authorities who keep the record of the ship's registry or if the ship is not registered in a State Party, with the authorities issuing or certifying the certificate.

6. An insurance or other financial security shall not satisfy the requirements of this article if it can cease for reasons other than the expiry of the period of validity of the insurance or security provided in the certificate under paragraph 2, before three months have elapsed from the date on which notice of its termination is given to the authorities referred to in paragraph 5, unless the certificate has been surrendered to these authorities or a new certificate has been issued within the said period. The foregoing provisions shall similarly apply to any modification which results in the insurance or security no longer satisfying the requirements of this article.

7 The State of the ship's registry shall, subject to the provisions of this article and having regard to any guidelines adopted by the Organization on the financial responsibility of the registered owners, determine the conditions of issue and validity of the certificate.

8 Nothing in this Convention shall be construed as preventing a State Party from relying on information obtained from other States or the Organization or other international organizations relating to the financial standing of providers of insurance or financial security for the purposes of this Convention. In such cases, the State Party relying on such information is not relieved of its responsibility as a State issuing the certificate required by paragraph 2.

9 Certificates issued and certified under the authority of a State Party shall be accepted by other States Parties for the purposes of this Convention and shall be regarded by other States Parties as having the same force as certificates issued or certified by them, even if issued or certified in respect of a ship not registered in a State Party. A State Party may at any time request consultation with the issuing or certifying State should it believe that the insurer or guarantor named in the certificate is not financially capable of meeting the obligations imposed by this Convention.

10 Any claim for costs arising under this Convention may be brought directly against the insurer or other person providing financial security for the registered owner's liability. In such a case the defendant may invoke the defences (other than the bankruptcy or winding up of the registered owner) that the registered owner would have been entitled to invoke, including limitation of liability under any applicable national or international regime. Furthermore, even if the registered owner is not entitled to limit liability, the defendant may limit liability to an amount equal to the amount of the insurance or other financial security required to be maintained in accordance with paragraph 1. Moreover, the defendant may invoke the defence that the maritime casualty was caused by the wilful misconduct of the registered owner, but the defendant shall not invoke any other defence which the defendant might have been entitled to invoke in proceedings brought by the registered owner against the defendant. The defendant shall in any event have the right to require the registered owner to be joined in the proceedings.

11 A State Party shall not permit any ship entitled to fly its flag to which this article applies to operate at any time unless a certificate has been issued under paragraphs 2 or 14.

12 Subject to the provisions of this article, each State Party shall ensure, under its national law, that insurance or other security to the extent required by paragraph 1 is in force in respect of any ship of 300 gross tonnage and above, wherever registered, entering or leaving a port in its territory, or arriving at or leaving from an offshore facility in its territorial sea.

13 Notwithstanding the provisions of paragraph 5, a State Party may notify the Secretary-General that, for the purposes of paragraph 12, ships are not required to carry on board or to produce the certificate required by paragraph 2, when entering or leaving a port in its territory, or arriving at or leaving from an offshore facility in its territorial sea, provided that the State Party which issues the certificate required by paragraph 2 has notified the Secretary-General that it maintains records in an electronic format, accessible to all States Parties, attesting the existence of the certificate and enabling States Parties to discharge their obligations under paragraph 12.

14 If insurance or other financial security is not maintained in respect of a ship owned by a State Party, the provisions of this article relating thereto shall not be applicable to such ship, but the ship shall carry a certificate issued by the appropriate authority of the State of registry, stating that it is owned by that State and that the ship's liability is covered within the limits prescribed in paragraph 1. Such a certificate shall follow as closely as possible the model prescribed by paragraph 2.

Article 13

Time limits

Rights to recover costs under this Convention shall be extinguished unless an action is brought hereunder within three years from the date when the hazard has been determined in accordance with this Convention. However, in no case shall an action be brought after six years from the date of the maritime casualty that resulted in the wreck. Where the maritime casualty consists of a series of occurrences, the six-year period shall run from the date of the first occurrence.

Article 14

Amendment provisions

1 At the request of not less than one-third of States Parties, a conference shall be convened by the Organization for the purpose of revising or amending this Convention.

2 Any consent to be bound by this Convention, expressed after the date of entry into force of an amendment to this Convention, shall be deemed to apply to this Convention, as amended.

Article 15

Settlement of disputes

1 Where a dispute arises between two or more States Parties regarding the interpretation or application of this Convention, they shall seek to resolve their dispute, in the first instance, through negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements or other peaceful means of their choice.

2 If no settlement is possible within a reasonable period of time not exceeding twelve months after one State Party has notified another that a dispute exists between them, the provisions relating to the settlement of disputes set out in Part XV of the United Nations Convention on the Law of the Sea, 1982, shall apply *mutatis mutandis*, whether or not the States party to the dispute are also States Parties to the United Nations Convention on the Law of the Sea, 1982.

3 Any procedure chosen by a State Party to this Convention and to the United Nations Convention on the Law of the Sea, 1982, pursuant to Article 287 of the latter, shall apply to the settlement of disputes under this article, unless that State Party, when ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, chooses another procedure pursuant to Article 287 for the purpose of the settlement of disputes arising out of this Convention.

4 A State Party to this Convention which is not a Party to the United Nations Convention on the Law of the Sea, 1982, when ratifying, accepting, approving or acceding to this Convention or at any time thereafter shall be free to choose, by means of a written declaration, one or more of the means set out in Article 287, paragraph 1, of the United Nations Convention on the Law of the Sea, 1982, for the purpose of settlement of disputes under this Article. Article 287 shall apply to such a declaration, as well as to any dispute to which such State is party, which is not covered by a declaration in force. For the purpose of conciliation and arbitration, in accordance with Annexes V and VII of the United Nations Convention on the Law of the Sea, 1982, such State shall be entitled to nominate conciliators and arbitrators to be included in the lists referred to in Annex V, Article 2, and Annex VII, Article 2, for the settlement of disputes arising out of this Convention.

5 A declaration made under paragraphs 3 and 4 shall be deposited with the Secretary-General, who shall transmit copies thereof to the States Parties.

Article 16

Relationship to other conventions and international agreements

Nothing in this Convention shall prejudice the rights and obligations of any State under the United Nations Convention on the Law of the Sea, 1982, and under the customary international law of the sea.

Article 17

Signature, ratification, acceptance, approval and accession

—1 This Convention shall be open for signature at the Headquarters of the Organization from 19 November 2007 until 18 November 2008 and shall thereafter remain open for accession.

- (a) States may express their consent to be bound by this Convention by:
 - (i) signature without reservation as to ratification, acceptance or approval; or
 - (ii) signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
 - (iii) accession.
- (b) Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General.

Article 18

Entry into force

1 This Convention shall enter into force twelve months following the date on which ten States have either signed it without reservation as to ratification, acceptance or approval or have deposited instruments of ratification, acceptance, approval or accession with the Secretary-General.

2 For any State which ratifies, accepts, approves or accedes to this Convention after the conditions in paragraph 1 for entry into force have been met, this Convention shall enter into force three months following the date of deposit by such State of the appropriate instrument, but not before this Convention has entered into force in accordance with paragraph 1.

Article 19

Denunciation

1 This Convention may be denounced by a State Party at any time after the expiry of one year following the date on which this Convention comes into force for that State.

2 Denunciation shall be effected by the deposit of an instrument to that effect with the Secretary-General.

3 A denunciation shall take effect one year, or such longer period as may be specified in the instrument of denunciation, following its receipt by the Secretary-General.

Article 20

Depositary

1 This Convention shall be deposited with the Secretary General.

2 The Secretary-General shall:

- (a) inform all States which have signed or acceded to this Convention of:
 - (i) each new signature or deposit of an instrument of ratification, acceptance, approval or accession, together with the date thereof;
 - (ii) the date of entry into force of this Convention;
 - (iii) the deposit of any instrument of denunciation of this Convention, together with the date of the deposit and the date on which the denunciation takes effect; and
 - (iv) other declarations and notifications received pursuant to this Convention;
- (b) transmit certified true copies of this Convention to all States that have signed or acceded to this Convention.

3 As soon as this Convention enters into force, a certified true copy of the text shall be transmitted by the Secretary-General to the Secretary-General of the United Nations, for registration and publication in accordance with Article 102 of the Charter of the United Nations.

Article 21

Languages

This Convention is established in a single original in the Arabic, Chinese, English, French, Russian and Spanish languages, each text being equally authentic.

IN WITNESS WHEREOF the undersigned*, being duly authorized by their respective Governments for that purpose, have signed this Convention.

DONE IN NAIROBI this eighteenth day of May two thousand and seven.

* Signatures omitted.

Annex

Certificate of insurance or other financial security in respect of liability for the removal of wrecks

Issued in accordance with the provisions of article 12 of the Nairobi International Convention on the Removal of Wrecks, 2007

Name of ship	Gross tonnage	Distinctive number or letters	IMO ship identification number	Port of registry	Name and full address of the principal place of business of the registered owner

This is to certify that there is in force, in respect of the above-named ship, a policy of insurance or other financial security satisfying the requirements of article 12 of the Nairobi International Convention on the Removal of Wrecks, 2007.

Type of security

Duration of security

Name and address of the insurer(s) and/or guarantor(s)

Name

Address

This certificate is valid until

Issued or certified by the Government of

(Full designation of the State)

OR

The following text should be used when a State Party avails itself of article 12, paragraph 3:

The present certificate is issued under the authority of the Government of

.....
(full designation of the State)

by

.....
(name of institution or organization)

at

.....
(place)

on

.....
(date)

.....
(Signature and title of issuing or certifying official)

Explanatory notes:

- 1 If desired, the designation of the State may include a reference to the competent public authority of the country where the Certificate is issued.
- 2 If the total amount of security has been furnished by more than one source, the amount of each of them should be indicated.
- 3 If security is furnished in several forms, these should be enumerated.
- 4 The entry "Duration of Security" must stipulate the date on which such security takes effect.
- 5 The entry "Address" of the insurer(s) and/or guarantor(s) must indicate the principal place of business of the insurer(s) and/or guarantor(s). If appropriate, the place of business where the insurance or other security is established shall be indicated.

