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INTERNATIONAL MARITIME LAW INSTITUTE
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**A LAW FOR THE INCORPORATION OF THE
INTERNATIONAL CONVENTION ON THE
CONTROL OF HARMFUL ANTI-FOULING
SYSTEMS ON SHIPS, 2001
INTO THE LAW OF ARGENTINA**

**A Legislation Drafting Project submitted in partial fulfillment of
the requirements for the award of the Degree of Master of Laws
(LL.M.) in International Maritime Law at the IMO International
Maritime Law Institute**

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Academic Year 2015-2016

Acknowledgements

To my Mother

To my Father

I am deeply grateful to Prof. Dr. Griselda D. Capaldo and Prof. María Cecilia Gómez Masia for their trust and support.

I am deeply grateful to my supervisor Ms. Ramat Jalloh for her advice and valuable comments, it has been a pleasure to work under her supervision.

I am greatly thankful to Prof. David J. Attard for his support; he is a role model.

I am very thankful to IMLI Staff, for their kind help and smiles.

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Abbreviations

AFS -	Anti-fouling systems
AFS Convention -	International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001
CN -	Argentina National Constitution
IMO -	International Maritime Organization
ITLOS -	International Tribunal for the Law of the Sea
LGA -	General Environment Law
MARPOL -	International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)
MEPC -	Marine Environmental Protection Committee
OTC -	Organotin compounds
PNA -	Argentinian Coast Guard
TBT -	Tributyltin
UNCLOS -	United Nations Convention on the Law of the Sea 1982

I. Marine Biofouling and Anti-fouling systems

Marine biofouling¹ has to be understood as a major omnipresent issue for shipping industry.²

This issue is and has historically been addressed through different technics, which for the purpose of the present explanatory note will be considered as part of the general concept of anti-fouling systems (AFS).

From a historical review,³ the use of heavy metals, such as copper, in coatings begin in 1800 and continued until the end of the Second World War. Afterwards, during the 1960s Tributyltin (TBT) coatings were developed and introduced widely in the shipping industry. TBT is a variety of organotins compounds, which prove to be highly effective AFS among other associated industrial benefits.⁴ However, TBT Self-polishing is not the only strategy, Tin-free SPC coatings, Tin-free conventional coatings, Booster biocides, Foul-release coatings and Biomimetics can be mentioned.⁵

The first four strategies work on the basis of slow and constant leakage of the biocide component. It is worth mentioning this mechanic due to the interaction between the

¹ "Marine biofouling describes the community of organisms that settle and grow on the external surfaces of submerged or semi- submerged objects, both natural and artificial (Lewis, 1998)." Dafforn, K.; Johnston, E.; Lewis, J "Antifouling strategies: History and regulation, ecological impacts" In Marine Pollution Bulletin 62 (2011) (453–465) page 453

² Ibid

³ Ibid page 456 (Table 2). See also Readman J. "Development, Occurrence and Regulation of Antifouling Paint Biocides: Historical Review and Future Trends" in I. Konstantinou (Editor) "Antifouling Paint Biocides – The Handbook of Environmental Chemistry – Volume 5 Water Pollution Part O" Springer, Berlin Heidelberg 2006 page 1 "Antifouling of boats and ships is not a new concept. The history of antifouling has recently been reviewed [1]. The ancient civilizations of the Romans and the Greeks coated their vessels with lead sheathing secured by copper nails. Columbus' ships are thought to have been coated with pitch and tallow. In the UK, lead sheathing was abandoned by the Navy in the late 1600s and antifouling paints containing tar, grease, sulphur pitch and brimstone were developed. One hundred years later, copper sheathing was used, which prevented fouling through dissolution of the toxic metal ions. It was in the mid-1800s that antifouling paints really began to develop. This was attributed to the introduction of iron ships on which copper sheathing caused corrosion of the iron. Paints were prepared by adding toxicants such as copper oxide, arsenic, and mercury oxide to resin binders. These proved to be effective. Following the Second World War, the introduction of petroleum-based resins and health and safety concerns relating to organo-arsenicals and mercurials meant that synthetic copper based paints became most popular. In the late 1950s and early 1960s, a new formulation using tributyltin (TBT) proved to be excellent in the prevention of fouling."

⁴ "The efficiency of TBT, especially in "self-polishing" formulations, was remarkable, and the application of TBT-based paints rapidly expanded. Added bonuses also included the fact that it did not cause galvanic corrosion on aluminium hulls, it was colourless, and periods between dry-docking were extended." Ibid page 2

⁵ Dafforn, K; Op cit Page 456 (Table 1). See also L.D. Chambers, K.R. Stokes, F.C. Walsh, R.J.K. Wood; "Modern approaches to marine antifouling coatings"; Surface & Coatings Technology 201 (2006) 3642–3652

AFS Convention and MARPOL, as it will be explained further below⁶, it is related to each Convention's scope of application and the legislation in force in Argentina.

Currently the technological evolution reached extends its consideration to a comprehensive approach to ship operation when addressing biofouling.⁷

II. Scientific Background

There is extensive scientific research on the topic. One of the main comprehensive research efforts on the topic resulted in the ACE report.⁸ This scientific and technical research addressed the topic of antifouling agents in coastal environments, and was issued in the 2002. This research covered an effort from the United Kingdom, Netherlands, Spain, Greece, Denmark, Sweden and France. In the figure 1 of the report, the scope of the research can be seen and the areas which in fact where the object of the research. It is important to consider in connection with it, the sites description under table 6 of the report. The description covers Marinas, Harbours, Estuaries and Coastal waters. It can be concluded from this that there is a close relation between the high presence of shipping activity to the presence of AFS pollution.

Scientific literature on the subject reveals the main focus regarding AFS and in particular organotins. It addresses the types and characteristics of the compounds⁹, the presence of the compounds in the environment¹⁰, the presence and effects of the

⁶ See page 34

⁷ "As modern day technology has developed, the benefits associated with a well-conditioned hull and the prevention of biofouling have increased to include considerations associated with the entire life cycle, operating and support costs critical to vessel operations." Patrick J. Earley, Brandon L. Swope, Katherine Barbeau, Randelle Bundy, Janessa A. McDonald & Ignacio Rivera-Duarte (2014) "Life cycle contributions of copper from vessel painting and maintenance activities, Biofouling", 30:1, 51-68, DOI: 10.1080/08927014.2013.841891; Page 51

⁸ ASSESSMENT OF ANTIFOULING AGENTS IN COASTAL ENVIRONMENTS (ACE) (MAS3-CT98-0178)

⁹ Thomas, K. V. and Brooks, S.(2009) "The environmental fate and effects of antifouling paint biocides", Biofouling, 26:1,73 — 88

¹⁰ Anita Garg, Ram M Meena, Narayan B Bhosle; "Distribution of butyltins in waters and sediments of the Mandovi and Zuari estuaries, west coast of India" Author version: Environ. Monit. Assess.: 165(1-4); 2010; 643-651. See also Noritaka Tsunemasa and Hideo Yamazaki; "Concentration of Antifouling Biocides and Metals in Sediment Core Samples in the Northern Part of Hiroshima Bay" Int. J. Mol. Sci. 2014, 15, 9991-10004; doi:10.3390/ijms15069991
International Journal of Molecular Sciences ISSN 1422-0067 www.mdpi.com/journal/ijms

compounds in marine life.¹¹ It has to be mentioned also that the commercial products (AFS paints) have also be subject of research.¹²

These topics are evaluated in light of the environmental fate¹³ and the ecotoxicology¹⁴, among other issues.

II.1. Research conducted in Argentina

The Imposex effect, found worldwide, has also been researched in Argentina. In the first research, which was conducted in the Mar del Plata port, not only a high degree of imposex was highlighted but also that the "...sedimentary reservoir of TBT seems to contribute to its persistence..."¹⁵. The high presence of imposex is also related to the decrease in the affected specie population observed in coastal waters in the city front.

In a different research¹⁶ TBT contamination along the Argentinian shoreline was evaluated. This geographically comprehensive study shows that "...the ports of the Argentinean coast are affected by TBT pollution, which is associated with im-po-sex incidence in caenogastropods."¹⁷ Except for the port of Bahia Blanca, all other ports were surveyed in this research.

High imposex presence was found in that study linked to high concentrations of TBT, which is related further to high marine traffic. Also, the type and characteristics of the

¹¹ Jones Bernardes Graceli, Gabriela Cavati Sena, Pedro Francisco Iguatemy Lopes, □ Gabriela Carvalho Zamprogno, Mércia Barcellos da Costa, Ana Flavia Locateli Godoi, □ Dayana Moscardi dos Santos, Mary Rosa Rodrigues de Marchi, Marcos Antonio dos Santos Fernandez; "Organotins: A review of their reproductive toxicity, biochemistry, and environmental fate" *Reproductive Toxicology* 36 (2013) 40–52

¹² Madelene Krantz-Frid; Supervisor: Kerstin Gustafsson; "Ecotoxicological effects from three antifouling paints on the red macroalga *Ceramium tenuicorne*". Södertörn University | Department of Life Sciences □ Bachelor Thesis 15 hp | Environmental Science | Spring 2009

¹³ Kinga Dubalska, Małgorzata Rutkowska, Gabriela Bajger-Nowak, Piotr Konieczka, and Jacek Namies'nik; "Organotin Compounds: Environmental Fate and Analytics" *Critical Reviews in Analytical Chemistry*, 43:35–54, 2013; Taylor and Francis Group, LLC

¹⁴ Cecilia Ohlsson; "Ecotoxicology of Antifouling Biocides With Special Focus on the Novel Antifoulant Medetomidine and Microbial Communities" ISBN: 978-91-85529-58-2 □ Printed by Kompendiet, Aidla Trading AB, Göteborg 2013

¹⁵ Penchaszadeh, P; Averbuj, A and Cledon, M; "Imposex in Gastropods from Argentina South-Western Atlantic" *Marine Pollution Bulletin* Vol. 42, No. 9, pp. 790+791, 2001 Ó 2001 Elsevier Science Ltd.; Page 790

¹⁶ Bigatti, G; Primost, M; Cledón, M; Averbuj, A; Theobald, N; Gerwinski, W; Arntz, W Morriconi, E; Penchaszadeh, P; "Biomonitoring of TBT contamination and imposex incidence along 4700 km of Argentinean shoreline (SW Atlantic: From 38S to 54S)"

¹⁷ Ibid Page 701

sediments are considered in relation to the high presence of TBT pollution.¹⁸

The port of Bahia Blanca, not tested under the research referred to above, is analysed in a research¹⁹ focused on the TBT presence and impact on the Patagonian shore, thus focusing on the Patagonian environment impact. The study was conducted in the main navigational channel of the estuary due to the high maritime activity in the area.²⁰

Is important to highlight part of the conclusion of this research where the results found in Argentina are similar to ones found in other parts of the world.²¹

One of the main conclusions of that research links the presence of TBT to the use of TBT-based AFS on ships in the evaluated areas.²² “The results obtained evidence the presence of TBT in different orders of magnitude in all the assessed sites because TBT-based antifouling paints have been used in ships that have entered the evaluated areas.”

II.2. Impact on Human Health

Regarding human health, the exposure scenarios have to be considered as well as the health consequences. Organotins can reach humans mainly through contaminated food and water.²³

It is evident that shore population bears a higher risk due to neighbouring the pollution focus. However, considering food industry, the risk is expanded to major consumer centers.²⁴

Regarding the possible effects of exposure in human and mammals, Giriyan and Sonak mention that “...OTC affect different organs including liver (12. 40. 41) blood (12.42).

¹⁸ Ibid Page 699. For the organized data regarding the ports, its level of activity, TBT, marine species and effect analyzed see Table 1 at Ibid Page 698

¹⁹ Delucchi, F., Narvarte, M.A., Amin, O., Tombesi, N.B., Freije, H. and Marcovecchio, J. (2011) “Organotin compounds in sediments of three coastal environments from the Patagonian shore, Argentina”, *Int. J. Environment and Waste Management*, Vol. 8, Nos. 1/2, pp.3–17.

²⁰ Ibid Page 6

²¹ Italy, France, Spain, Australia; Ibid Page 13

²² Ibid Page 14

²³ Giriyan, A.; Sonak, Sangeeta “Organotins and Humans: Threat and Risk” In “Biochemical and Biological Effects of Organotins”

Editors: Alessandra Pagliarani, Fabiana Trombetti and Vittoria Ventrella

University of Bologna-Department of Veterinary Medical Sciences, Italy.

eISBN: 978-1-60805-265-3, 2012; Page 166

²⁴ Lichtfouse, Eric, Jan Schwarzbauer, and Didier Robert. “Pollutant Diseases, Remediation and Recycling”; Wien, Springer 2013. Page 249

brain, immune organs, and in particular, the thyroid (43. 44) Acute effects of TBT include alterations in blood lipid levels, the endocrine system, liver and spleen Hepatic, neural, and immunotoxicity are the predominant indicators of high-level organotin exposure. (19) Nakanishi (41) suggests that the spectrum of potential adverse effects of OTC in humans is very broad and includes primarily immunosuppressive, endocrinopathic, neurotoxic, metabolic effects and enzymatic activity changes as well as potential ocular, dermal, cardio-vascular, upper respiratory, pulmonary, gastrointestinal diseases, blood dyscrasias, reproductive/teratogenic/developmental disturbances, bioaccumulation in liver and kidney, and possibly carcinogenic activity...”²⁵

From a legal perspective the resolution²⁶ which incorporates the AFS Convention into the EU considers the protection of human health as one of the two main objectives of the Convention, being environmental protection the second.²⁷

III. Historical Background

III.1. Road to the Convention

The Convention's development road can be reviewed based on MEPC and IMO resolutions.

The attention was drawn to AFS and organotin marine environmental hazard in 1990, through the MEPC resolution MEPC 46(30).

Eight years later, in 1998, the 41st Session MEPC (30) took place. During this reunion, a working group was established to start the work on drafting regulations “...to effect the phasing out of organotins as antifoulants and to propose a time schedule for their prohibition.”²⁸ It is worth mentioning that during those reunions, it was thought that

²⁵ Giriyan, A; op cit; Page 167

²⁶ Regulation (EC) No 782/2003 of the European Parliament and of the Council of 14 April 2003 on the prohibition of organotin compounds on ships-

²⁷ “Protecting the sea and the food chain from the effects of organotin compounds” “A ban on the use of certain chemical compounds on ships and nets can help protect the marine environment and human health.” “This regulation incorporates the rules of the International Maritime Organisation's (IMO) Anti-Fouling Systems (AFS) Convention* into European Union (EU) law. It aims to prohibit organotin compounds on all ships entering EU ports in order to reduce or eliminate the adverse effects of these products.”

²⁸ http://www.imo.org/blast/mainframe.asp?topic_id=109&doc_id=343

one possible way to legally establish the prohibition through an Annex to the MARPOL 73/78 System.

In its 43rd session, MEPC decided to legally address the issue by proposing a Conference (2000-2001) "...to adopt a legal instrument to regulate the use of shipboard anti-fouling systems"²⁹

In November 1999, the IMO Resolution A.895(21) was adopted. Through it the MEPC was urged to produce the draft of a convention addressing the topic. It should be noted that the draft was intended to be a "global legally binding instrument". While in the preamble of the resolution reference is made to the MEPC.46(30) which in turn recommended the prohibition of tributyltin compounds in AFS, when it addresses the topic, the 1999 resolution, clearly states that the instrument to be drafted "...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..."³⁰ and the complete prohibition by 1 January 2008 of such compounds presence. This not only started the instruments drafting but also set its agenda/schedule.

The IMO Assembly had also approved the holding of the proposed diplomatic conference.

The working group furthered its development of the draft of the legal instrument during the year 2000 in the MEPC 44th session, which took place in March. In October, the 45th sessions took place and after reviewing on an article by article basis, "...the draft International Convention on the Control of Harmful Anti-fouling Systems"³¹ was approved.

MEPC reviewed in its 46th session some of the issues and conclude by preparing a revised draft convention, although some issues were to be decided by The Conference, "...including entry into force criteria and whether ships should be allowed to over-paint

²⁹ http://www.imo.org/blast/mainframe.asp?topic_id=109&doc_id=357

³⁰ IMO Resolution A.895(21)

³¹ http://www.imo.org/blast/mainframe.asp?topic_id=109&doc_id=359

existing TBT coatings with a sealer or be required to sandblast back to bare steel in order to comply with the Convention's requirements.”³²

III.2. Road after the convention

In the year following to The Conference, and the adoption of the text, MEPC requested, in its 47th session, the Flag State Implementation (FSI) Sub-Committee the development of guidelines related to the AFS Convention covering three topics:³³

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

In the year 2003, two guidelines concernign the compliance with the AFS Convention were approved by the MEPC in its 49th Session.

- Guidelines for brief sampling of anti-fouling systems and Guidelines for inspections of ships anti-fouling systems.
- The Guidelines were developed by the Sub-Committee on Flag State Implementation.

In the 59th Session MEPC, which took place in 2009, guidance on best management practices for removal of anti fouling coatings from ships, including TBT hull paints, were developed by the Scientific Groups working in relation to the London Convention on Dumping and its protocol.³⁴

Finally it should be mentioned that the first international recommendations addressing biofouling of ships, to minimize the transfer of aquatic species was adopted in 2011, during the 62nd Session MEPC.

The Guidelines analysed “the risks of introduction of invasive aquatic species through the adherence of sealife, such as algae and molluscs, to ships’ hulls.”³⁵

Although the focus is not the AFS, it is highly related considering that the efectivness of

³²<http://www.imo.org/en/MediaCentre/MeetingSummaries/MEPC/Archives/Pages/default.aspx>

³³ http://www.imo.org/blast/mainframe.asp?topic_id=109&doc_id=1753

³⁴ http://www.imo.org/blast/mainframe.asp?topic_id=109&doc_id=11123

³⁵ <http://www.imo.org/en/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-62nd-session.aspx>

the AFS is in a considerable amount the protection from the addressed hazard.

IV. Regulatory analysis of Argentina

IV.1. Legal analysis of environmental law in Argentina

The environmental protection legal framework in Argentina can be analysed in a general to specific basis.

Environmental protection has to be analysed in conjunction with the Argentinian constitution, the National Federal laws and environmental law treaties.

The main right regarding a clean and safe environment is to be found in the article 41 Argentina National Constitution (CN).³⁶ This provides the basal stone of environmental protection in Argentina. From this disposition the legal framework is based downwards by national federal laws that establish federal minimum standards.

The LGA³⁷ is the general act providing for environmental protection. Its purpose is to establish general environmental federal minimum standards. This law establishes: environmental legal principles, the object of protections (i.e. the environment), the legal basis for environmental liability, and environmental policy guidelines among other elements.

There is also a group of laws which establish specific environmental federal minimum standards for different issues concerning environmental protection.

A group of laws and regulations will be considered due to their relation with the subject matter of the present analysis.

³⁶ "Section 41.- All inhabitants are entitled to the right to a healthy and balanced environment fit for human development in order that productive activities shall meet present needs without endangering those of future generations; and shall have the duty to preserve it. As a first priority, environmental damage shall bring about the obligation to repair it according to law. The authorities shall provide for the protection of this right, the rational use of natural resources, the preservation of the natural and cultural heritage and of the biological diversity, and shall also provide for environmental information and education. The Nation shall regulate the minimum protection standards, and the provinces those necessary to reinforce them, without altering their local jurisdictions. The entry into the national territory of present or potential dangerous wastes, and of radioactive ones, is forbidden." Argentinian Constitution; english version, available online at WIPO. (Seen 31/01/16)
http://www.wipo.int/wipolex/en/text.jsp?file_id=282508

³⁷ General Environment law - 25.675 Ley General Del Ambiente

IV.1.1. Environmental Protection Laws

- 25.831 Free Access to Public Environmental Information Regime³⁸
- 25.675 General Environment Law³⁹
- 25.612 Integral Management of Industrial and Service Activities Wastes⁴⁰
- 24.051 Dangerous Wastes⁴¹
- 22.421 Conservation of the Fauna⁴²
- 22.190 Prevention and Vigilance Regime of Water and other Elements from Environment Pollution from Pollutant Agents from Ships and Naval Artifacts.⁴³

IV.1.1.1. Law 25.831 Free Access to Public Environmental Information Regime⁴⁴

Through this legislation, the right of access to public information related to environmental issues is regulated. This right can be considered within the LGA regime. It is important to note due to the evidential status granted by the LGA to environmental public information.⁴⁵

The object is to establish the minimum standards in order to guarantee the right of access to public environmental information.⁴⁶

The definition of “environmental information” is broad, covering “all that information” regardless of the means it is contained and related to the environment, natural resources,

³⁸ 25.831 Regimen De Libre Acceso A La Informacion Publica Ambiental

³⁹ 25.675 Ley General Del Ambiente

⁴⁰ 25.612 Gestión Integral De Residuos Industriales Y De Actividades De Servicios.

⁴¹ 24.051 Residuos Peligrosos

⁴² 22.421 Conservación De La Fauna

⁴³ 22.190 Régimen De Prevención Y Vigilancia De La Contaminación De Las Aguas U Otros Elementos Del Medio Ambiente Por Agentes Contaminantes Provenientes De Buques Y Artefactos Navales; Derogación De La Ley 20.481.

⁴⁴ 25.831 Regimen De Libre Acceso A La Informacion Publica Ambiental

⁴⁵ Article 33 LGA. The evidence value of governmental authorities technical rulings/reports is equated to expert opinion reports. (“**ARTICULO 33.** - Los dictámenes emitidos por organismos del Estado sobre daño ambiental, agregados al proceso, tendrán la fuerza probatoria de los informes periciales, sin perjuicio del derecho de las partes a su impugnación.”)

⁴⁶ Article 1 Law 25.831

cultural and the sustainable development. Two points are considered, one, the status of the environment, its components, the reciprocal interactions between them as well as the activities that might affect them. The other point involves the policies, plans, programs relating to environmental protection.⁴⁷

It is clear that the implementation of the AFS Convention falls within the second category.

In relation to the AFS Convention it is worth noting the connection with the research related obligation.

The implementation strategy becomes key issue in order to achieve proper interaction with this internal regulation. The point is to blend the two underlying policies.

IV.1.1.2. Law 25.675 General Environmental Law⁴⁸

According to Article 2⁴⁹ the national environmental policy has to be taken into account when designing the implementation of the convention. The aim should be to harmonize both policies. While this process might not seem necessary, its importance lies not on the legal imperative, which is not under discussion, but on the coherence of the environmental protection logic that inspires, channels and guides the environmental protection regime in Argentina.

Among others, it is worth mentioning, the preservation and conservation of environmental resources, the enhancement of present and future generations' quality of life, promote the rational and sustainable use of environmental resources, keep the equilibrium and dynamic of ecological systems, prevent the noxious and dangerous effects atropic activities produce in order to enable sustainability, and establish adequate procedures and mechanisms to minimize environmental risks.

In article 4⁵⁰ "principles of environmental policy" are established. The environmental law policies are to be analyzed and cross referenced with the environmental legal policy

⁴⁷ Article 2 Law 25.831

⁴⁸ 25.675 Ley General Del Ambiente

⁴⁹ Article 2, LGA 25.675

⁵⁰ "Principios de la política ambiental - ARTICULO 4º - La interpretación y aplicación de la presente ley, y de toda otra norma a través de la cual se ejecute la política Ambiental, estarán sujetas al cumplimiento de los siguientes principios:..."

established in the international legal plane. These principles have a double legal standard and are of direct application within internal law. The principles should guide the whole lifespan of the environmental regulation process. Lifespan can be understood as the process since the conception of the environmental regulation, considering the implementation, compliance and up to the enforcement when compliance failed.

According to the provision “interpretation and application”⁵¹ of any norm through which environmental policy is executed is subjected to the principles explained in the article. As a matter of implementation of the Convention, it is crucial to understand that environmental protection regulations will fall within the category of “environmental policy”.

IV.1.1.2.a) Environmental law principles under Argentinian law

The main environmental law principles of Argentina can be found particularly in law 25.675. These principles include the following:

- **Principle of congruence:** According to it, provincial and municipal legislation referring to environmental matters should be in line with the principles and norms established by the LGA.⁵²
- **Prevention principle:** “the causes and source of environmental problems will be addressed in a integrated and priority manner, in order to prevent the negative effects that can be produced over the environment”⁵³
- **Precautionary principle:** “when there is danger of serious or irreversible damage, the lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”⁵⁴

⁵¹ Article 4 LGA

⁵² “Principio de congruencia: La legislación provincial y municipal referida a lo ambiental deberá ser adecuada a los principios y normas fijadas en la presente ley; en caso de que así no fuere, éste prevalecerá sobre toda otra norma que se le oponga.” LGA Article 4

⁵³ “Principio de prevención: Las causas y las fuentes de los problemas ambientales se atenderán en forma prioritaria e integrada, tratando de prevenir los efectos negativos que sobre el ambiente se pueden producir.” LGA Article 4

⁵⁴ “Principio precautorio: Cuando haya peligro de daño grave o irreversible la ausencia de información o certeza científica no deberá utilizarse como razón para postergar la adopción de medidas eficaces, en función de los costos, para impedir la degradación del medio ambiente.” LGA Article 4

- **Inter-generational Equity principle:** “Those responsible for environmental protection should watch for the appropriate use and enjoyment of the environment by the present and future generations”⁵⁵
- **Principle of progressivity:** The environmental objective should be achieved in a gradual manner, through intermediate and final goals, projected in a temporal schedule which ease the adaptation which correspond to the activities related to those objectives.”⁵⁶
- **Principle of responsibility (Polluter Pays):** “Who generates degrading effects of the environment, actual or future, is responsible for the costs of the preventive actions and the action of recomposition, without the prejudice to the force of the corresponding systems of environmental responsibility”.⁵⁷
- **Subsidiarity principle:** “The National Government, through the different steps of public administration, has the obligation to collaborate, and if necessary, to participate in a manner complementary to the action of the individuals in the environmental preservation and protection.”⁵⁸
- **Sustainability principle:** “The economic and social development and the use of natural resources should be done through an appropriate management of the environment, in such a way, as not to compromise the possibilities of the present and future generations.”⁵⁹

⁵⁵ “Principio de equidad intergeneracional: Los responsables de la protección ambiental deberán velar por el uso y goce apropiado del ambiente por parte de las generaciones presentes y futuras.” LGA Article 4

⁵⁶ “Principio de progresividad: Los objetivos ambientales deberán ser logrados en forma gradual, a través de metas interinas y finales, proyectadas en un cronograma temporal que facilite la adecuación correspondiente a las actividades relacionadas con esos objetivos.” LGA Article 4

⁵⁷ “Principio de responsabilidad: El generador de efectos degradantes del ambiente, actuales o futuros, es responsable de los costos de las acciones preventivas y correctivas de recomposición, sin perjuicio de la vigencia de los sistemas de responsabilidad ambiental que correspondan.” LGA Article 4

⁵⁸ “Principio de subsidiariedad: El Estado nacional, a través de las distintas instancias de la administración pública, tiene la obligación de colaborar y, de ser necesario, participar en forma complementaria en el accionar de los particulares en la preservación y protección ambientales.” LGA Article 4

⁵⁹ “Principio de sustentabilidad: El desarrollo económico y social y el aprovechamiento de los recursos naturales deberán realizarse a través de una gestión apropiada del ambiente, de manera tal, que no comprometa las posibilidades de las generaciones presentes y futuras.” LGA Article 4

- **Solidarity principle:** “The Nation and the provinces should be responsible for the preservation and alleviation of transboundary environmental effects. Also the alleviation of risks over shared environmental systems.”⁶⁰
- **Cooperation principle:** “Natural resources and shared ecological systems should be used in an equitable and rational manner. The treatment and mitigation of the environmental emergencies of transboundaries effects should be developed in a joint manner”.⁶¹

IV.1.1.1.b) Minimum Standard

The concept of “Minimum Standard”, term which appear in the article 41 CN is defined by Article 6.⁶² It can be understood as “any norm which grants environmental protection, in a uniform or common way for the whole national territory, and its objective is to impose necessary conditions to ensure environmental protection. In its content, it has to have the necessary conditions to guarantee the dynamic of ecological systems, their environmental carrying capacity, and in general, ensure environmental preservation and sustainable development.

Under this definition, the implementation of the Convention will not fall under such category. The aim of the Convention is the protection of the environment, but through the regulation, as for example control of a activity which will have an impact on the marine environment, and not a regulation over the environment in itself. However, since

⁶⁰ “Principio de solidaridad: La Nación y los Estados provinciales serán responsables de la prevención y mitigación de los efectos ambientales transfronterizos adversos de su propio accionar, así como de la minimización de los riesgos ambientales sobre los sistemas ecológicos compartidos.” LGA Article 4

⁶¹ “Principio de cooperación: Los recursos naturales y los sistemas ecológicos compartidos serán utilizados en forma equitativa y racional, El tratamiento y mitigación de las emergencias ambientales de efectos transfronterizos serán desarrollados en forma conjunta.” LGA Article 4

⁶² “Presupuesto mínimo - ARTICULO 6º - Se entiende por presupuesto mínimo, establecido en el artículo 41 de la Constitución Nacional, a toda norma que concede una tutela ambiental uniforme o común para todo el territorio nacional, y tiene por objeto imponer condiciones necesarias para asegurar la protección ambiental. En su contenido, debe prever las condiciones necesarias para garantizar la dinámica de los sistemas ecológicos, mantener su capacidad de carga y, en general, asegurar la preservación ambiental y el desarrollo sustentable.”

the aim of the regulation is environmental protection, the fact that this is not a “minimum standard” norm does not prejudices its environmental character, as well as its consideration as part of the environmental policy of the country, thus being subjected to the environmental principles and policy elements mentioned above.⁶³

IV.1.1.3. Law 25.612 Integral Management of Industrial And Service Activities Wastes⁶⁴

This Law establishes the minimum standards of environmental protection regarding the management of wastes from industrial activity and services.

In Article 1⁶⁵ Industrial process and service activity are defined in order to set the scope of application. Industrial process is every activity or procedure, which intends to obtain a final product through the use of industrial methods. Service activity is any activity which complements an industrial activity and can, by the wastes it generates, be assimilated to the industrial activity.

In the Article 2⁶⁶ the term “waste” is defined in a broad manner. This definition includes any element or substance, in any physical estate, which is obtained as a result or is related to the activities concerned by this law.

The Law is aimed at controlling the whole process from the generation of such waste to the final disposal.

⁶³ See Articles 2 and 4 LGA

⁶⁴ 25.612 Gestión Integral De Residuos Industriales Y De Actividades De Servicios.

⁶⁵ ARTICULO 1º — Las disposiciones de la presente ley establecen los presupuestos mínimos de protección ambiental sobre la gestión integral de residuos de origen industrial y de actividades de servicio, que sean generados en todo el territorio nacional, y sean derivados de procesos industriales o de actividades de servicios.

Se entiende por proceso industrial, toda actividad, procedimiento, desarrollo u operación de conservación, reparación o transformación en su forma, esencia, calidad o cantidad de una materia prima o material para la obtención de un producto final mediante la utilización de métodos industriales.

Se entiende por actividad de servicio, toda actividad que complementa a la industrial o que por las características de los residuos que genera sea asimilable a la anterior, en base a los niveles de riesgo que determina la presente.

⁶⁶ ARTICULO 2º - Se entiende por residuo industrial a cualquier elemento, sustancia u objeto en estado sólido, semisólido, líquido o gaseoso, obtenido como resultado de un proceso industrial, por la realización de una actividad de servicio, o por estar relacionado directa o indirectamente con la actividad, incluyendo eventuales emergencias o accidentes, del cual su poseedor productor o generador no pueda utilizarlo, se desprenda o tenga la obligación legal de hacerlo.

It has to be noted that among others, the wastes originated from normal operations of ships are excluded. Note that the waste considered under the Article 5 of the AFS Convention will not fall under normal operation of the ship, while it might be normal operation of a shipyard and fall in such character clearly under a service according to the definition of this legislation. It might well be a matter of policy whether to consider such wastes within this exclusion or not. However, it should be mentioned that MEPC has develop scientific guidance to manage such waste in relation to the London Convention.⁶⁷

IV.1.1.4. Law 24.051 Dangerous Wastes⁶⁸

According to this Law, Article 2⁶⁹, will be considered as dangerous waste any waste that directly or indirectly might cause damage to life or contaminate the soil, water, atmosphere or the environment in general. That articles refers to the annexes 1 and 2 of the law containing a list of dangerous wastes and a list of characteristics respectively. Just by bearing one or more of the listed characteristics, it is deemed to be dangerous under this regulation. It has to be noted that the exception to “normal operations of ships” found in the law considered above is also included in this law.⁷⁰ Therefore the same considerations apply.

The life cycle of dangerous wastes is addressed by this law, from their generation to the final disposal, including treatment and transport.

⁶⁷ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972

⁶⁸ 24.051 Residuos Peligrosos

⁶⁹ ARTICULO 2° - Será considerado peligroso, a los efectos de esta ley, todo residuo que pueda causar daño, directa o indirectamente, a seres vivos o contaminar el suelo, el agua, la atmósfera o el ambiente en general. En particular serán considerados peligrosos los residuos indicados en el Anexo I o que posean alguna de las características enumeradas en el Anexo II de esta ley. Las disposiciones de la presente serán también de aplicación a aquellos residuos peligrosos que pudieren constituirse en insumos para otros procesos industriales. Quedan excluidos de los alcances de esta ley los residuos domiciliarios, los radiactivos y los derivados de las operaciones normales de los buques, los que se regirán por leyes especiales y convenios internacionales vigentes en la materia.

⁷⁰ ANEXO I

CATEGORIAS SOMETIDAS A CONTROL

ANEXO II

LISTA DE CARACTERISTICAS PELIGROSAS

The main groups of provisions address the topics of the register of wastes generators, carriers and treatment industries; the document of transport for such wastes, a liability regime, a penal regime and an administrative sanctions regime.

IV.1.1.5. Law 22.421 Conservation of the Fauna⁷¹

Through this Law the protection, conservation and rational use of the wild fauna temporarily or permanently found within the Argentinian territory has been declared public interest.

According to Article 3⁷² of this Law, the marine fauna directly affected by AFS might in general be excluded from the scope of application of this law. However, that fauna is one step in the food chain, thus the effects of the pollution might reach species which fall under this regulation. When related to Article 14⁷³ the contradiction with the aforementioned exclusion becomes evident.

It has to be considered whether Article 14 impose an obligation which will cross the procedures for registering, patenting or surveying AFS, its compounds, and ships' AFS surveys.

⁷¹ 22.421 Conservación De La Fauna

⁷² ARTICULO 3. - A los fines de esta Ley se entiende por fauna silvestre:

- 1) Los animales que viven libres e independientes del hombre, en ambientes naturales o artificiales.
- 2) Los bravíos o salvajes que viven bajo control del hombre, en cautividad o semicautividad.
- 3) Los originalmente domésticos que, por cualquier circunstancia, vuelven a la vida salvaje convirtiéndose en cimarrones.

Quedan excluidos del régimen de la presente Ley los animales comprendidos en las leyes sobre pesca. La autoridad jurisdiccional de aplicación acordará con la SECRETARIA DE ESTADO DE INTERESES MARITIMOS la división correspondiente en los casos dudosos.

⁷³ ARTICULO 14. - Antes de autorizar el uso de productos venenosos o tóxicos que contengan sustancias residuales nocivas, en especial los empleados para la destrucción de aquellos invertebrados o plantas que son el alimento natural de determinadas especies, deberán ser previamente consultadas las autoridades nacionales o provinciales competentes en materia de fauna silvestre.

IV.1.1.6. Law 22.190 Prevention and Vigilance Regime of Water and other Elements from the Environment Pollution from Pollutant Agents from Ships and Naval Artifacts.⁷⁴

Under Article 2⁷⁵, two prohibitions are set. The first regarding the discharge of oil, and the second is a general prohibition, which becomes relevant to the focus of this explanatory notes. "...in general, incur in any action or omission not contemplated by regulation, able to pollute the waters in national jurisdiction."

Article 4⁷⁶ establishes obligations to ships, being relevant to have and use equipment and systems, means and instruments for the prevention and to fight against pollution, to abide the design and operational rules.

Through Article 6⁷⁷ it is entitled the PNA to exercise the measures needed to control and fight against pollution as well as to provide for the cleaning of waters in the national jurisdiction.

Under Article 10⁷⁸ sanctions are established pursuant to violations to its provisions.

⁷⁴ 22.190 Régimen De Prevención Y Vigilancia De La Contaminación De Las Aguas U Otros Elementos Del Medio Ambiente Por Agentes Contaminantes Provenientes De Buques Y Artefactos Navales; Derogación De La Ley 20.481.

⁷⁵ Artículo 2º- Se prohíbe a los buques y artefactos navales la descarga de hidrocarburos y sus mezclas fuera del régimen que autorice la reglamentación y, en general, incurrir en cualquier acción u omisión no contemplada reglamentariamente, capaz de contaminar las aguas de jurisdicción nacional. La prohibición es extensiva a los buques de bandera nacional en alta mar.

⁷⁶ Artículo 4º- Los buques y artefactos navales deberán cumplir con las siguientes obligaciones, de conformidad con los requisitos que establezca la reglamentación:

- a) Llevar el libro de registro de hidrocarburos y los demás registros que se determinen por vía reglamentaria.
- b) Informar de las descargas propias y de terceros buques y artefactos navales así como de las manchas que constaten.
- c) Contar con equipos y utilizar sistemas, medios y dispositivos para la prevención y lucha contra la contaminación.
- d) Observar las reglas de diseño pertinentes.
- e) Observar las reglas operativas para la prevención y lucha contra la contaminación.

⁷⁷ Artículo 6º- El Comando en Jefe de la Armada (Prefectura Naval Argentina) tendrá a su cargo la ejecución de las medidas para combatir la contaminación y efectuar la limpieza de las aguas en jurisdicción nacional que no estén a cargo del organismo mencionado en el Artículo 5º. Cuando la magnitud de la contaminación lo hiciere necesario, el Comando en Jefe de la Armada dispondrá la intervención de otros organismos de la Armada que considere conveniente.

⁷⁸ Artículo 10- Las infracciones a la presente ley y sus decretos reglamentarios, serán sancionadas con:

- a) Apercibimiento.
- b) Suspensión.
- c) Inhabilitación.
- d) Multa de cien mil pesos (\$ 100.000) a trescientos cuarenta millones de pesos (\$ 340.000.000). Esta última sanción podrá aplicarse sin perjuicio de las anteriores y de la prohibición de navegar del buque, cuando resultare procedente según la naturaleza de la infracción.

According to Article 13⁷⁹ compliance and enforcement is also in the hands of the PNA. It is to apply the aforesaid sanctions under article 10 according to the procedures established in the REGINAVE⁸⁰.

War and police ships are excluded from the scope of this law.

IV.1.2. Partial conclusions on the Environmental legal framework in Argentina

As can be seen from the explanation above, environmental protection regulation in Argentina forms a systemic framework. It has a hierarchical organisation based on the type of regulation, regarding the purpose and scope aim. Basically, there are two categories worth mention. The first is the “minimum standards” laws, second, specific regulations. In turn, “minimum standards” can be general or specific; for example the LGA is the main environmental law, establishing the general minimum standards for the entire environmental framework, while the Dangerous Wastes law can be considered as a specific minimum standards regulation regarding wastes.

It has to be noted that from the LGA several environmental law principles are introduced in the system, giving them force of law. For example the precautionary principle can be mentioned. However, it has to be noted that for a proper implementation this principle should be understood in the light of the international instruments, considering how it has been established with the MEPC Resolution 67 (37), through which IMO explains its understanding of the principle and how it should be applied. It is evident that the AFS Convention is intended to be interpreted based on the precautionary principle.

The environmental legal framework can be considered as part of the justification for the incorporation of the Convention.

⁷⁹ Artículo 13- La investigación y la instrucción de sumarios motivados por las infracciones a la presente ley y su reglamentación, así como la aplicación de las sanciones previstas en el Artículo 10, estarán a cargo del Comando en Jefe de la Armada (Prefectura Naval Argentina), conforme a las normas de procedimiento en lo contravencional establecidas en el Régimen de la Navegación Marítima, Fluvial y Lacustre (REGINAVE). Por estas mismas normas se registrará lo concerniente a: graduación de las sanciones, reincidencias, prescripción de la acción y de la pena y la instancia recursoria.

⁸⁰ REGINAVE Decree 4516/1973 Maritime, fluvial and lake navigational regime

Such framework starting from the constitutional right to a safe and healthy environment in the hands of the Government to provide, guarantee and protect such rights. Together with the international conventions which set environmental protection and to which Argentina is party (and are in force); including the specific environmental maritime regulation. Conveys a complex regulatory landscape which can be argue to cover generally environmental pollution. However, it does not address in a up to date, systematic and specific manner the AFS reality. It can be considered also that underlying this lack appears the constitutional mandate for environmental protection.

IV.2. Maritime Environmental Regulations

IV.2.1.1. Decree 1886/1983⁸¹ regulation to 22.190

This Decree established Title 8 of the REGINAVE. Title 8 “Prevention of vessel-source pollution” implements the law 22.190.

IV.2.1.2. The current internal legal regulation of AFS

It can be found mainly in two regulatory instruments. The PNA Ord. 8/87⁸² and the PNA Ord. 4/98⁸³

IV.2.1.3. The PNA Ord. 8/87

This Regulation establishes a general control for AFS. Control in this sense has to be understood as record and awareness but not necessarily the management and guidance of which compounds are used. This can be related to article 308.0802⁸⁴ of the REGINAVE, which contains a general prohibition to perform minor reparations to ships, including those referring to hull paint and cleaning, without a permit obtained from the PNA. Although it can be that permits might be issued to perform pollutant activities, the issue is in determining in a coherent and uniform manner what constitute

⁸¹ Decree 1886/1983 (PEN - Executive Branch)

Implementing regulation to Law 22.190

⁸² Prevencion de la contaminacion, normas relativas a las operaciones de rasqueteado o aplicacion de pinturas antiincrustantes en buques, artefactos navales, plataformas de explotacion costa afuera u otras construcciones fijas o flotantes en aguas de jurisdiccion nacional.

⁸³ Normas para la prevencion de la contaminacion de las aguas provenientes de embarcaciones deportivas y de placer.

⁸⁴ 302.0802. Reparaciones menores

No se realizarán en los buques en puerto pruebas de máquinas con movimientos de hélices, arriado de botes, rasqueteado y pintado exterior sin expresa autorización de la Prefectura.

pollutant activity. Therefore the register of the activities and the permit system work more like compliance mechanisms than environmental protection regimes. Those mechanisms can become futile exercise unless as an informing part of a protection regime.

Its main provisions relate to the duty of the owners to inform the PNA (Argentinian coast guard) before painting and polishing works (5 days prior):

- Name, type, characteristic of the ship, naval artefact, platform, etc.
- Works to perform (polishing and /or painting)
- Brand and type of antifouling painting to use.
- Measure to be used to avoid the dissemination of particles originated in the polishing or paint leaking.
- Manner to dispose of empty containers with paint residue

It should be noted that the application of paint is only allowed by brush.

IV.2.1.4. The PNA Ord. 4/98

A slightly more comprehensive control and management of AFS is established by this Regulation. The aim is set on small and pleasure vessels. This regulation is to be applied by the vessels and by the marinas and nautical clubs. The main provisions relate to regulate the sewer water, wastes, leakage, and oil discharges and pollution. Regarding the use of paints, the use of TBT is forbidden. The polishing works are ordered to be performed in appropriate installations, with care that the wastes do not get into the waters. All elements used in such works are to be disposed of in a safe manner taking care not to leave them exposed and able to damage natural life and the environment.

A small discrepancy can be evidenced in this regime with the convention and international mandate. While the international ban concerns organotin, this regulatory provision prohibits the use of TBT. As analysed above TBT is one class of organotin, although TBT are the widely used compound in AFS, two levels of inconsistent implementation arise. First the ban is restricted and second it can be argued as level of failure to comply with the international obligation.

IV.3. Maritime Law

IV.3.1. Merchant Shipping Law⁸⁵

In the Argentinian legislation, “Ship” as a legal concept can be found in the merchant shipping Law, bearing a specific meaning which accommodates the application of Maritime law to it.⁸⁶ It should also be mentioned that according to regulation 17/72014 (PNA) floating constructions not destined to navigate have been incorporated into the REGINAVE.

This has to be mentioned due to the AFS Convention’s definition and use of the term “Ship” with a broader scope. By highlighting this a priori inconsistency it is aimed a proper implementation in which the term should bear the meaning used in the Convention, and the regulation should be compatible with other internal provisions.

V. Sustainable Development

Sustainable development as established in the Argentinian Constitution, and guiding the legal system should be understood in light of the Bruntland report and Agenda 21.

According to the Bruntland Report, “In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.”⁸⁷ In practice, it implies “...a balanced and integrated approach to environment and development questions.”⁸⁸

It can be said that both sources understand sustainable development as one policy guidance. Such will require, for example, international cooperation, protection of human health, protection of the oceans, conservation of the biodiversity, participation

⁸⁵ 20.094 Ley de la Navegacion

⁸⁶ “Article 2 - Ship is all floating construction destined to navigate through water . Naval artefact is any other floating construction auxiliary to the navigation but not destined to it, even when it could move through water in sort ways to fulfil its specific ends” - Buque y artefacto naval Artículo 2º - Buque es toda construcción flotante destinada a navegar por agua. Artefacto naval es cualquiera otra construcción flotante auxiliar de la navegación pero no destinada a ella, aunque pueda desplazarse sobre el agua en cortos trechos para el cumplimiento de sus fines específicos.

⁸⁷ Report of the World Commission on Environment and Development: Our Common Future, Part I.2.I.-15.

⁸⁸ The Agenda 21, see the preamble.

including ONGs, industry and scientific community, and information for decision-making. The importance of information for decision-making involves the three stages, Implementation, Compliance and Enforcement, and this should be stressed and related to the AFS Convention

It can be said that environmental matters "...are closely integrated into the economic development process to ensure that the natural resource base that supports economic growth is not depleted by that growth, that the ecological diversity or regenerative capacity of natural systems is not reduced, and that both environmental and economic health are sustained through time."⁸⁹

This policy approach can be evidenced and inter-related to environmental law principles. For example it can be mentioned the synergy between the preventive principle, which aims at acting before damage is done, with the precautionary principle, through which it is better to act even when there is no certainty of the harmful consequences. Sustainable development can be linked for example when it encourages development through research, with the cooperation principle, which usually establishes the duty to share the information.

These principles are part of the internal legal system of Argentina through the LGA.

Certain technics, strategies and procedures are guided and designed through this approach, and such should be evidenced within the policy of new regulation aimed at environmental protection. For example the following can be enunciated:

- Industry regulation to protect the human health⁹⁰
- Industry regulation to protect the environment, and in especial the oceans⁹¹
- Research importance⁹²
- Information share⁹³

⁸⁹ Nanda, Ved P.; International Environmental Law & Policy; Transnational Publishers 1995, USA. Page 14

⁹⁰ The Agenda 21 - Section I.6

⁹¹ The Agenda 21 - Section II.17

⁹² The Agenda 21 - Section IV 35

⁹³ The Agenda 21 - Section IV 36 - 40

- State cooperation ⁹⁴
- Development (Industry, business, economy) ⁹⁵
- Rule of Law

The mentioned practical manifestations of sustainable development can be found in the Argentinian legal system exemplified by the selected regulation analysed above.

- Industry regulation to protect the human health: Dangerous Wastes law - Integral Management of Industrial and Service Activities Wastes
- Industry regulation to protect the environment, and in especial the oceans: General Environment Law - Prevention and Vigilance Regime of Water and other Elements from Environment Pollution from Pollutant Agents from Ships and Naval Artifacts
- Research importance: General Environment Law - Conservation of the Fauna
- Information share: General Environment Law - Free Access to Public Environmental Information Regime
- State cooperation: General Environment Law - Conservation of the Fauna - Free Access to Public Environmental Information Regime
- Development (Industry, business, economy): General Environment Law - Integral Management of Industrial and Service Activities Wastes
- Rule of Law

Argentina has also assumed international commitments, which can be related to this approach. It should be understood that the internal environmental legal framework is in part the implementation of the international conventions to which Argentina is part and the means to fulfil the international obligations which arise from those international instruments. The incorporation of a new convention should be considered in this double character, therefore its likeliness to fulfil and adapt to previous assumed obligations, while fulfilling its own purpose.

- Convention on Biological Biodiversity

⁹⁴ The Agenda 21 - Section IV 37

⁹⁵ The Agenda 21 - Section III.30

- United Nations Framework Convention on Climate Change
- Convention on Wetlands of International Importance especially as Waterfowl Habitat
- The Vienna Convention for the Protection of the Ozone Layer
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)
- United Nations Convention on the Law of the Sea

If the sustainable development is used as a guidance, and if an intended convention contains provisions establishing the explained techniques it can be argued that the convention and its implementation suits the guiding policy of the country, thus justifying its accession.

This can be found in the AFS Convention in different provisions as follows.

- Industry regulation to protect the human health – Articles 1, 4 and 5 AFS Convention.
- Industry regulation to protect the environment, and in especial the oceans - Articles 1, 4, 5 and 12 AFS Convention.
- Research importance - Articles 7, 8 and 9 AFS Convention.
- Information share – Article 12 AFS Convention
- State cooperation – Articles 6, 9 and 12 AFS Convention
- Development (Industry, business, economy) – Article 13 AFS Convention

- Rule of Law - Articles 14 and 15 AFS Convention

VI. Environmental Law principles under international law

VI.1. Precautionary principle

In essence this principles effect can be summarized as to exclude scientific uncertainty as an excuse or impediment to act towards environmental protection. Regarding the development and application of environmental law facing scientific uncertainty, Sands⁹⁶ states that this principle provides guidance. It can be said, furthering from his argument that a convention inspired by this principle, as it is the case with the AFS Convention, should continue to be guided through out its implementation.

This principle it is not only referred to by the preamble of the AFS convention, but in fact IMO has issued a resolution⁹⁷ through which the precautionary approach is not only incorporated but developed as guidance to apply it to its own work. This document bases the precautionary concept as outlined in the principle 15 of the Rio Declaration⁹⁸. Three points are worth mentioning from this concept, the risk or menace to the environment should be of a serious or irreversible damage character; the text refers to "...lack of full scientific certainty..." and refers to "...cost-effective measures...". From the wording it can be implied that scientific research should not be neglected, and in fact encouraged, however the environment should not bear the cost of the asymmetry. Cost-effective is the guidance and should be considered according to the issue, the risk and the degree of scientific certainty or uncertainty.

The IMO document also considers the guide found in The Agenda 21 as to shift from a reactive approach to a precautionary and anticipatory one when addressing marine environment.

⁹⁶ Sands, Philippe; Principles of International Environmental Law; Page 267

⁹⁷ Resolution MEPC 67(37) Annex 10 - adopted on 15 September 1995

⁹⁸ Principle 15 In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

This is also linked to UNCLOS perspective and application of the precautionary approach. According to it such precautionary and anticipatory approach should to be applied to "...avoid degradation of the marine environment..."⁹⁹

It becomes useful to understand that IMO considers, in the mentioned document, that this principle can be applied to IMO activities which aim at "...achieving improved compliance, viz flag States implementation, Port State Control and the International Ship Management (ISM) Code".¹⁰⁰ Among the guidelines, the main points to highlight are to consider the environmental impact of activities under regulation, the promotion of informed decision-making process, the incentive of research for national and international information gathering and analysis programs, develop of cost-effective measures, to foster the development of new "...policies, programmes, guidelines or regulations..."¹⁰¹ addressing marine environmental issues, and the "...promotion of clean technologies (...) including the use of best environmental practice and best available technology to ensure improving environmental performance."¹⁰²

It should be stressed that the precautionary approach is of utmost importance for the whole convention process, but in particular to the compliance and enforcement. While the organotin, current forbid AFS, environmental harm needs no more scientific evidence, the AFS which have and are in development to replace the AFS should be evaluated in the light of the concerned principle.

VI.1.2. Preventive principle

It can be argue that this principle can be used to inform the implementation process. According to Sands¹⁰³ "...under the preventive principle, a state may be under an obligation to prevent damage to the environment within its own jurisdiction, including by means of appropriate regulatory, administrative and other measures." Therefore it can be argued that the implementation process is not only an obligation under international law to fulfil the obligations that arise from the convention in question. Implementation of the convention would also be an international obligation under the

⁹⁹ Resolution MEPC 67(37) Annex 10 – Page 2

¹⁰⁰ Resolution MEPC 67(37) Annex 10 – Page 3

¹⁰¹ Ibid

¹⁰² Resolution MEPC 67(37) Annex 10 – Page 4

¹⁰³ Sands, P; Op cit. Page 246

preventive principle.

The AFS Convention is in fact a good example of this principle. The general prohibition aims at avoiding the use of the pollutant by the industry, the risk is eliminated before it becomes an actual pollution. This is further evidenced by the initial surveyance of the ship requiring its compliance with the convention.

VI.1.3. Principle of cooperation

It can be considered from principle 24 Stockholm Declaration¹⁰⁴ and principle 27 Rio Declaration.¹⁰⁵ Under Stockholm it is considered that environmental management "...should be handled..." through a cooperative manner, and such manner can be evidenced "...through multilateral or bilateral arrangements or other appropriate means..."

In turn Rio Declaration ties cooperation "...in the further development of international law in the field of sustainable development"

VI.2. Relation to UNCLOS (1982)

The relation between UNCLOS and the AFS convention is explicitly established by the latter in its article 15.¹⁰⁶ Through it, the AFS convention clearly estates that its provisions are not to affect "international customary law of the sea" as reflected by UNCLOS.

Therefore, in line of the AFS convention implementation it should be analyzed the

¹⁰⁴ Principle 24

International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing.

Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.

¹⁰⁵ Principle 27

States and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.

¹⁰⁶ 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.

environmental regime under UNCLOS and it should also be analyzed to which extent such regime falls within international customary law.

The basis of the protection can be found in the interaction between two articles, the article 192 and 194. Through article 192 a general obligation is established upon states “to protect and preserve the marine environment”.

Tanaka¹⁰⁷ understands that this obligation, by referring to the marine environment, the oceans are considered as a whole, therefore moving further from the *sic utere tuo ut alienum non laedas* which is deemed to apply within the national jurisdiction.

Although from articles 207 to 211 a classification of the pollution sources is established, it is not a limitation nor the way to assign the core state obligation, it is rather a comprehensive treatment structure.

The obligation is under article 194 “...to take all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from *any source*...”.

This leads to the question if the AFS Convention can be considered a measure necessary to prevent, reduce and control pollution, and if such measure is consistent with UNCLOS. This question is simply answered in a positive way at this point, and by reference to the general analysis in this explanatory notes. The soundness of the AFS convention as an environmental protection regime is explained in the empirical sense is explained above regarding the environmental impact of harmful AFS, i.e. TBT. The legal soundness is considered above when considered in light of the Argentinian legal system and under the light of the sustainable development guiding policy. The “consistency” with UNCLOS is evident and clearly stated as mentioned previously by the article 15 of the AFS convention.

If the obligation under UNCLOS is reviewed, the states are being subject in principle to liability, what is being assigned to them is the duty to take actions towards environmental protection.¹⁰⁸ In this light the control of the AFS, and in particular the ban of use of compounds which are proven harmful to the marine environment seem to

¹⁰⁷ Tanaka, Yoshifumi *The International Law of The Sea*; Cambridge University Press; UK; 2012 page 263 - 264

¹⁰⁸ Ibid Page 264

fit such obligation.

The extent to which this environmental regime can be considered customary law can be argued in the light of the broad adherence to UNCLOS convention in general.¹⁰⁹

Special attention deserves the provision under article 211 (2) UNCLOS stressing the duty by flag States to regulate their ships environmental impact. The link can be seen in the provision of article 1, 3, 10 and 11 AFS convention.

Notable importance is given to cooperation under the convention, article 197, and the duty to cooperate is deemed to be a principle of marine environmental protection to ITLOS¹¹⁰

Article 204 and 206; together with article 205 (Publication of Reports) regarding to the environmental impact assessment can be linked with the cooperation approach or principle.

The regime that should mainly concern in the interaction of the conventions is the so called “vessel-source” marine pollution, according to article 211 “Pollution from vessels”. Although the possible impact of the removal of old AFS, which may turn into either land-based or dumping, has been taken into consideration.

As enforcement jurisdiction is established for the flag state under article 217 it might be argued the further obligation to “...ensure compliance by their vessels with the

¹⁰⁹ Ibid

¹¹⁰ The MOX Plant (Ireland v. United Kingdom) JOINT DECLARATION OF JUDGES CAMINOS, YAMAMOTO, PARK, AKL, MARSIT, EIRIKSSON AND JESUS available online at https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_10/joint.decl.E.orig.pdf (Seen 31/01/16) “The Tribunal has identified the duty to cooperate as a fundamental principle in the regime of the prevention of pollution of the marine environment under Part XII of the Convention and general international law.” See also The MOX Plant (Ireland v. United Kingdom) (Order 3/12/01) https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_10/Order.03.12.01.E.pdf (Seen 31/01/16) “Ireland and the United Kingdom shall cooperate and shall, for this purpose, enter into consultations forthwith in order to:

- (a) exchange further information with regard to possible consequences for the Irish Sea arising out of the commissioning of the MOX plant;
- (b) monitor risks or the effects of the operation of the MOX plant for the Irish Sea;
- (c) devise, as appropriate, measures to prevent pollution of the marine environment which might result from the operation of the MOX plant.”

applicable international rules and standards...” involving environmental protection. The provision in article 217 (3) particularly relates to AFS Convention Annex 4, by placing the obligation on the flag state to ensure the ship carries on board the legally required certificates.

The jurisdictional scheme is complemented by article 211, through it coastal state legislative and enforcement jurisdiction is established. This is to be linked to the AFS Convention in its articles 3, 10, 11 and 12.

Articles 226 and 227 should also be taken into consideration. Article 226 found its counterpart in the AFS convention article 13. Article 227 calls for no discrimination of foreign vessels, it has to be noted that according to article 3 (3) of the AFS Convention, no more favourable treatment should be given to non-member state ships. If both provisions are to be understood together in fact the non-discrimination can be considered as the justification for the general application of the AFS Convention.

A final mention should be made to article 311 UNCLOS, where the convention establishes its relations to other treaties in the sense that UNCLOS is to prevail between state parties.

VI.3. Relation to MARPOL “International Convention for the Prevention of Pollution from Ships” 78/83

It should be analysed the relation with MARPOL convention. In that convention the violation to it is the pollution of waters by “discharge”. “Discharge” as defined by the convention covers among others the “leakage” of the pollutant.¹¹¹ It can be argued that the current addressed AFS, i.e. those bearing organotin booster biocides, work by leaking the biocide to the marine environment, which proves to be harmful and can be considered the leaked pollutant in MARPOL terms. It is important to notice that there is not necessarily an overlap between the conventions, and such overlap should be avoided when implementing the AFS convention. It has to be noted that although both

¹¹¹ MARPOL, Article 2 – Definitions – Discharge, in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying.

instruments aim at the environmental protection of the marine environment from vessel-source marine pollution, in fact MARPOL aim at the pollution while the AFS convention aims at the control of the system used. If this is considered from a temporal application, compliance with the AFS convention will avoid pollution and in that respect the application of MARPOL regime. However the violation of the AFS convention should arise liability under it but not necessarily under MARPOL. It might be the case of the first surveyance of the ship before it leaves the yard after the application of an AFS. In the situation in which it is discovered that the ship is bearing a AFS in violation of the convention while in the waters of a state party it might bear liability from both conventions.

VII. National Authority for Implementation, Compliance and Enforcement

Legal reasons to assign the PNA (Argentinian coast guard) as the Governmental Authority to apply the convention

According to the Argentinian Coast Guard (PNA) law 18.398, chapter IV, Article 5 a) 23)¹¹² it is one of the PNA functions to be involved in relation to regulations involving or aimed to the prohibition of lake, river and marine waters pollution from oil and other noxious substances. It is also its duty to control the compliance of such regulations.

This functions regarding the AFS Convention cover certain activities whithin the three stages of the main state party obligation as arise from the convention. The obligation considered to incorporate and apply it. The stages involve implementation, i.e. further regulation, compliance, i.e. assistance, management and inspection; and enforcement, i.e. inspection, administrative prosecution and police functions.

These functions legal source are to be found in the PNA Law, and the Navigation Regime which is further elaborated and applied by the PNA. In relation to the specific subject of maritime environmental regulation, the PNA is already the authority entitle

¹¹² "23) Entender en lo relativo a las normas que se adopten tendientes a prohibir la contaminación de las aguas fluviales, lacustres y marítimas por hidrocarburos u otras sustancias nocivas o peligrosas, y verificar su cumplimiento."

with the compliance and enforcement of the law 22.190¹¹³ as explained when that Law was analysed.

VIII. Conclusions

VIII.1. Implementation of the AFS Convention to the Argentinian legal system

VIII.1.1. Reasons for the accession and implementation of the Convention (Argentina)

VIII.1.1.1. Economic

The commercial restrictions that come from the Convention can affect the Argentinian fleet (Argentinian flag ships) in the port of any country party to the Convention regardless if Argentina is part or not to the convention. Moreover, by not being party to it Argentina cannot invoke its provisions (in general) thus being indirectly subjected to its limitations but not to its rights.

It is also worth considering the economic incentive to an AFS industry in the country. Acceding to the convention will give a fair regulatory environment for the develop of an AFS industry in the country.

VIII.1.1.2. Science

Regarding the interaction between planning and action taken, in the field of Science, it can be argue that implementation measures are already taking place. According to the National Plan of Science, Technology and Productive Innovation “Innovative Argentina 2020” the strengthening of the country’s scientific and technologic base is pursued. Along with it, it is also pursued the enhancement of the incorporation of scientific and technologic knowledge to the industries. From the general list of objectives regarding oceanic resources, the plan for the period 2013-2016 two are important in relation with the present exposition. The objective number 10: “Strengthen maritime industry and reparation systems”¹¹⁴ and number 13: “propitiate the participation of Argentinian researchers, both from the public and private sector, in international cooperation projects”.¹¹⁵ In particular, whithin the specific objectives: “maritime industry, maritime safety and logistics”, number 6 addresses the issue: “Develop technologies to reduce the

¹¹³ 22.190 Prevention And Vigilance Regime Of Water And Other Elements From The Environment Pollution From Pollutant Agents From Ships And Naval Artifacts

¹¹⁴ “Innovative Argentina 2020” National Plan of Science, Technology and Productive Innovation Page 8

¹¹⁵ Ibid Page 8

environmental risks produced by the maritime traffic, antifouling paints among them.”

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VIII.1.1.3. Social

The first perspective is clearly an environmental one, but after certain consideration the social, human factor is not only evident but strong. The higher environmental impacts are to be found in the high shipping areas, i.e. main routes and ports. Port are usually urban centers, as can be seen in Argentina's ports of Bs As, Mar Del Plata and Bahia Blanca.

VIII.1.1.4. Legal

There is no comprehensive and systematic regulation covering the issue. The legislation is dated, is general when covering the whole and refers only to the registration of the activity and specific only to small vessels. It does not control/considers foreign vessel when in port only for trade or resupply.

There is a legal requirement to provide for a sound environment management of activities and for environmental protection. It can be drawn from various sources within the legal system, as follows: International law, Constitution, National laws.

VIII.1.1.5. Environmental

There is more than enough scientific research in Argentina to prove the pernicious consequence of the organotin, TBT, and it can be compared to the effects registered and researched all over the world. In general it can be seen a concern for the effects of alternative AFS. Systematic scientific research is needed to consider the evolution of the affected areas, and the effects of new regulation.

VIII.1.1.6. Sustainable development

It has been explained how the sustainable development is the underlying informing policy of the environmental legal framework in Argentina and it can be argue the compatibility of the AFS Convention with this guiding policy.

¹¹⁶ Ibid Page 12, Pages 17 and 22 refer to environmentally friendly bio-compounds and nano-materials for antifouling purposes

This compatibility in addition with the compatibility, also argued above, to the UNCLOS and MARPOL regimes proves the AFS not only suitable for the Argentinian legal system but also a way to a further fulfilment of its international obligations.

VIII.1.2. AFS Convention analysis for its implementation

The AFS Convention aims at protecting the environment from the consequences of harmful anti-fouling systems. It can be understood as a system. This system has two elements: first, the legal framework and second, the annex I.

The legal framework establishes the States parties rights and obligations, and the process required to include new anti-fouling systems to the annex I.

The Annex I, establishes the compounds which are considered harmful along with the legal mandate, I. e. the prohibition of its use.

In this way the legal and technical aspects are divided allowing the permanence of the legal regime while the adaptability and evolution of the technical aspects.

This is an evident requirement considering that as it is to this date, the main legal consequence regarding the technical aspect is the prohibition of use of one of the most widely used and effective compounds in the history of anti-fouling so far. A natural consequence of this is the development of new and different AFS. While it is part of the scope of the Convention, the research and development of new and different environmentally sound AFS; it might well be the case that not all effects are sufficiently evaluated in the develop process. In such case, those new AFS might be incorporated in the Annex I. It might also be the case that new consequences of other existing AFS are discovered leading them into the Annex I.

The further Annexes complete the obligations arising from the conventions.

At this point it may become evident the need of a definition of "harmful AFS". While there is, the study of the convention as a whole leads to two main points. One is up to the states to propose to the MEPC and for it to conclude about the harmful effect, and second that the AFS can have adverse effects on the marine environment.

The empirical picture addressed by the convention involves the environmental consequences and impact of AFS. But in order to understand the implications of regulating this matter, if the picture is broadened, the consequences of lacking AFS become noticeable. Two main consequences will be considered, one, the vessel becomes less efficient in terms of navigation, requiring more fuel. The other is the biofouling.

A less efficient vessel triggers several consequences. Those are to be considered in separate categories, the economic impact and the environmental impact. As a simple example, the increase in fuel consumption is a clear economic impact (which spreads all over the industry and will reach the consumer, affecting other industries) which in turn may increase exhaust gases.

VIII.1.2.1. The Convention Legal Annotation and Provisions Analysis

From the Convention's preamble it should be noted the awareness over the scientific basis of the threat, the fact that the impact target is valued upon its ecological and economical importance. And the consideration of Marine life as well as human health as the ones bearing the risks of toxicity from certain AFS. In particular, organotin compounds are the current threat at the time of the Convention's development, and its main focus.

The recognitions considered in the preamble establish together a sound sustainable development approach. Through this part the logic and reasons behind the Convention are explained. Therefore, these are the elements to understand and look for in the Convention provisions. The protection of the marine environment, and human health (not only by the harm AFS might cause but also the harm caused by the lack of them); the protection of the shipping industry, and the understanding of development, which implies research, as a basis to aid the other objectives.

ARTICLE 1

General Obligations

The general obligations of States are established by article 1. The first point, as provided in subarticle (1), links the duty to "Implement" the Convention under national law, by the parties, with the core objective of the convention. In this way implementation is conceptualized as "...give full effect to its provisions..." while the objective is to protect the environment and human health from the convention subject matter, i.e. AFS.

Subarticle (2) aims at giving not only interpretation guidance but also establishes the systemic approach. The annexes as a part of the convention should be implemented and

considered together with the convention as a whole.

Subarticle (3) opens the system, by allowing the states to take further or stronger measures than the ones required by the convention. This is useful because it allows a broader spectrum of states to be part of the convention.

Cooperation, as considered in subarticle (4), is set as a non-binding understanding for the fulfilling of the convention and the environmental protection system created by it. It is important to notice that the convention clearly states three crucial steps towards effective regulation. Implementation, compliance and enforcement, each will be found within the provisions of the convention; a proper implementation implies that it should be possible to find them in the implementation regulation and practice.

Although the language in subarticle (5) is not strong, "undertake" can be interpreted as to establish an obligation. While "encourage" does not set direct objective or measurable results, it can be understood as open to the states to set by themselves the measures, technical and legal to foster this development. It should be noted that a reasonable standard of the aforementioned measures should be found in the implementation.

ARTICLE 2

Definitions

Article 2 provides for the definition of certain terms in the convention. Administration, under the Convention definition is the Government of the flag State, i.e. registry, or the coastal State, which exercises sovereign rights, regarding platforms in operation.

The AFS definition is coherent with the flexibility required for the system to last in time. From this definition, although is the currently restricted component, "organisms" are not the limit of the convention.

It has to be noted that, in subarticle (9) the use of the word "whatsoever" sets a completely open concept of "ship" leading to a broad scope of application.

ARTICLE 3

Application

Regarding the application of the convention, as provided for in article 3, the system established by the Convention is conceived to work on the basis of the "Ships" which are deemed to conform their AFS to the convention requirements. The links are based on the control (jurisdiction) a state party may exercise over the ship. These links are the flag of a state party; the operation under the control of a state party, the port state control of a state party; and the use of shipyards.

The interesting point under this provision is how through "no more favorable treatment" the system is able to enclose and apply over ship disregarding if its flag state is a party to the convention.

Therefore, the legal construction of the application links is set on the ship but through the eyes of the states party to the convention which are to implement and apply it. This way the best of both understandings can be used.

Regarding exclusions, warships and naval auxiliary vessels can be considered under the general notion of military vessels, which are traditionally excluded from maritime regulations. Are also to be excluded vessels under operated by a state party under "Jure Imperi". Under Argentinian law (Merchant Shipping Act 20.094 article 3) this category is considered "public ships"

ARTICLE 4

Controls on Anti-Fouling Systems

The provision contained in article 4 it can be understood what would be a harmful AFS, through the interaction between this article and Annex I. Therefore, while the basic obligation is to implement the Convention, the specific obligation to be implemented is to "prohibit and/or restrict". When the wording is studied along the Annex I, it becomes evident that it is not up to the State whether to prohibit or restrict, instead they should, to fulfil a proper implementation, at least follow the legal consequence established in the Annex I for each compound or AFS listed.

The prohibition or restriction is not linked directly to the harmful AFS, but through activities related to it. This way is useful to clearly broaden the scope of control of the States Parties over AFS compliance with the Convention. "the application, re-application, installation, or use", while the first three are to be related with shipyard operations or maintenance activities under the control of the port authority, regardless of the vessel; the last one is related to the actual ship in its normal operation. Therefore the Convention not only covers the actual use of AFS by ships on the marine environment, but also shipyard and maintenance industry.

The legal standard for implementation is "effective measures" to ensure compliance with the Convention.

It has to be noted however, that this "effective measures" notion might have effect further than the core obligation crystallized in the article 4 + Annex I. It has to be considered for example that according to Annex 4 Regulation 2, 400GT ships, involved in international voyages, are deemed to have a AFS certificate issued by the Administration or under its authorization, and bearing the Administration responsibility for the certificate.

ARTICLE 5

Controls of Annex 1 Waste Materials

According to article 5, "international rules, standards and requirements" are the limits to the appropriate measures taken in relation to the appropriate measures State parties shall take regarding the wastes generated from application or removal of an AFS.

It has also to be considered the relation between this provision with article 15, therefore the measures should be in line within the limits of UNCLOS.

ARTICLE 6

Process for Proposing Amendments to Controls on Anti-Fouling Systems

ARTICLE 7

Technical Groups

The provisions in Articles 6 and 7 together form the mechanism for the evolution of the convention. It sets a procedure to incorporate new compounds or AFS into the Annex I.

ARTICLE 8

Scientific and Technical Research and Monitoring

Under the provision in Article 8, the obligation is to “promote and facilitate” and not to undertake scientific research by the State Party. Although it has to be noted that in order to achieve proper implementation and practical application of the convention, certain standard of research should be undertaken within each State Party. This becomes more evident in relation to the next provision.

ARTICLE 9

Communication and Exchange of Information

The requirement, in subarticle (1) (a), for the State to provide a list of those organisations that can act as surveyors, is related to the faculty to delegate the survey operation but not the responsibility according to the convention and in particular Annex 4.

ARTICLE 10

Survey and Certification

Regarding surveyance and certification, according to Annex 4, it is the Authority’s responsibility and duty to issue such certificates.

ARTICLE 11

Inspections of Ships and Detection of Violations

It is important to note that detaining a non-compliant ship, as one of the measures provided in subarticle (3), means immobilizing the pollutant vessel in the State Party port, which might through a legal action undertaken by the State Party under the Convention and its implementation be violating other environmental obligations. In such case the detention should include a procedure which avoids pollution while it lasts.

ARTICLE 12

Violations

As provided in subarticle (1) is an obligation of the States Parties and part of the regulatory implementation requirements the prohibition of acts contrary to the Convention, as well as sanctions as a consequence for such violations. This part of the provision is focused on the Administration of the Ship, which refers to those States

parties which are related to the ship according to article 3 (1) a) and 3 (1) b).

Subarticle (2) completes the regulation by addressing the topic not on the basis of the relation between the State Party and the ship, but on the basis of the jurisdiction of the parties. In a way it can be understood to be aimed at the article 3 (2).

The provision has to be divided for analysis. It contains jurisdiction in two senses, the legislative and the prosecutorial one. From the Word "Any" to the Word "Party" the legislative jurisdiction is established, by the mandate to regulatory prohibit violations and also to establish sanctions. From the word "Whenever" onwards the prosecutorial jurisdiction is established. The convention grants with a optional choice which is set to be made upon the violation and not necessarily in the implementation. It has to be noted that it is a state party obligation under the convention to chose and pursue in face of each violation one of the options.

It can be also argued the underlying executive jurisdiction, meaning that certain executorial acts should happen in between, for example, detect such violations; however, we rather consider such jurisdiction not by implying it but from the explicit provisions which relate to such powers and duties.

ARTICLE 13

Undue Delay or Detention of Ships

Article 13 contains a balance between the faculty to detain a ship for the Authority deemed to apply the convention with the ship's bussiness and high comercial impact delay may have on it. This balance can be seen as a sustainable development mechanism.

ARTICLE 15

Relationship to International Law of the Sea

The Convention not only does not prejudice the scheme provided for under UNCLOS, it also relies on the jurisdictional authority, as set by UNCLOS, of the States Party to implement and apply its provisions. In addition it comes, the AFS convention, to complement and further excercise the environmental protection duties arising from UNCLOS.

VIII.1.2.2. Methodology for Implementation in Argentina

In Argentina the process regarding treaties is regulated in the Constitution. The power to negotiate, in a broad sense, i.e. to conduct the international relationships is entitled to the Executive branch, to the President. Article 99, 11) of the Argentine Constitution, the President of the Nation has the power to "conclude and sign treaties, concordats and other agreements required for the maintenance of good relations with international organizations and foreign powers..."

However, it is an internal requisite, after the text of a treaty has been concluded, to be approved by the Argentinian Congress, In order to allow the President for the future ratification of the treaty in the international plane. In this respect, Article 75, 22)

establishes “The Congress is empowered (...) to approve or reject treaties entered into with other nations and international organizations, and concordats with the Holy See...”

Therefore, in terms of the constitutional rules of Argentina, the procedure to enter into treaties consists of the following stages:

1. Negotiation, adoption and authentication of the text of the treaty by the Executive Body – generally through the Foreign Affairs Ministry;
2. Approval of the text by the Legislative Body; and
3. Ratification of the treaty by Executive Body – President of the Nation.

It has to be noted that even after passing the approval law the President is entitled to decide whether or not to ratify the treaty. In the event that such ratification occurs and whenever the treaty enters into force, according to the rules of international law in the international plane, such treaty will enter into force in Argentina without the need of other regulation.

However, there is a further clarification to make. The treaty will be in force in Argentina but that does not mean that such treaty does not require further regulation for its proper implementation.

In this respect two legislative instruments are proposed. First it is proposed the law to approve the text of the convention. Second it is proposed a law to regulate and implement the system established by the convention.

VIII.1.2.3. Table of correspondence between the provisions of the Convention
And the articles of the drafted Law to implement the Convention

Articles of the AFS Convention	Implemented in
<i>ARTICLE 1 General Obligations</i>	Draft Law for Incorporation and Draft Law for implementation
<i>ARTICLE 2 Definitions</i>	Draft Law for implementation Article 2
<i>ARTICLE 3 Application</i>	Draft Law for implementation Article 3
<i>ARTICLE 4 Controls on Anti-Fouling Systems</i>	Draft Law for implementation Article 11
<i>ARTICLE 5 Controls of Annex 1 Waste Materials</i>	Draft Law for implementation Article 12 Other Laws of Argentina: Law 24.051 Law 25.612 Law 25.675
<i>ARTICLE 6 Process for Proposing Amendments to Controls on Anti-Fouling Systems</i>	Draft Law for implementation Article 8
<i>ARTICLE 7 Technical Groups</i>	Draft Law for implementation Article 8
<i>ARTICLE 8 Scientific and Technical Research and Monitoring</i>	Draft Law for implementation Article 9
<i>ARTICLE 9 Communication and Exchange of Information</i>	Draft Law for implementation Article 10
<i>ARTICLE 10 Survey and Certification</i>	Draft Law for implementation Articles 5 and 6
<i>ARTICLE 11 Inspections of Ships and Detection of Violations</i>	Draft Law for implementation Article 14
<i>ARTICLE 12 Violations</i>	Draft Law for implementation Articles 13-17
<i>ARTICLE 13 Undue Delay or Detention of Ships</i>	Draft Law for implementation Articles 22

<i>ARTICLE 18</i> <i>Entry into force</i>	The Convention is in force, therefore the implementation Law shall enter into force eight days after its publication in the official Gazette, according to Article 5 of the Argentinian Civil and Commercial Code.
Annex 1	Implemented in connection with Articles 4 and 5 of the Convention
Annex 2	Implemented in connection with Articles 6 and 7 of the Convention
Annex 3	Implemented in connection with Articles 6 and 7 of the Convention
Annex 4	Draft Law for implementation Articles 5 and 6

VIII.1.2.4. Comments regarding sanctions in the implementing law

The amounts established for fines in article 16 are proposed for consideration of the Congress, considering that the amounts set out in Law 20.190 are significantly low and shall not be sufficient deterrent. However, the Congress may decide on the final fines to be imposed.

The sanction established in article 16 (d) is based on similar sanctions established in the Argentinian Penal Code articles 303 and 304.

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X. A Law to approve the International CONVENTION ON THE CONTROL OF HARMFUL ANTI-FOULING SYSTEMS ON SHIPS

The Senate and the Representative Chamber of the Argentinian Nation gathered in Congress, sanction with force of Law:

ARTICLE 1 Approval

Approve the International CONVENTION ON THE CONTROL OF HARMFUL ANTI-FOULING SYSTEMS ON SHIPS, concluded in London - United Kingdom – on 5 October 2001, constituted by TWENTY ONE (21) articles and FOUR (4) annexes. Authenticated copies are part of the present law.

ARTICLE 2 Notification

Notify to the National Executive Power, Publish it in the official Gazette.

XI. A Law to implement the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001.

Preamble

Considering that the International Conference on the Control of Harmful Anti-fouling Systems held by the INTERNATIONAL MARITIME ORGANIZATION (IMO) adopted on the 5 of October 2001 the International Convention on the Control of Harmful Anti-fouling Systems on Ships, from now on AFS, in order to reduce or eliminate adverse effects on the marine environment and human health caused by anti-fouling systems.

Noting that the AFS Convention which establishes that State parties undertake to give full and complete effect to its provisions. In order to fulfill such undertaking State parties shall make mandatory for Ships under their control to comply with the aforesaid provisions, including the Annexes to the Convention. In addition State parties shall adopt effective measures to guarantee compliance.

Recognizing that the environmental harmful effects and harm to the human health, posed by certain anti-fouling systems have been demonstrated by internationally recognized scientific research.

Recalling that the binding character of the AFS Convention, in line with the threat and harms posed by AFS, require effective measures based on rules applicable worldwide. Such rules should be implemented and applied fostering cooperation and scientific research.

Recalling also that in order to support the implementation of the AFS Convention, IMO has adopted several sets of guidelines. The "Guidelines for Survey and Certification of Anti-fouling Systems on Ships" (Resolution MEPC.102(48)), the "Guidelines for Inspection of Anti-fouling Systems on Ships" (Resolution MEPC.105(49)) and the "Guidelines for brief sampling of anti-fouling systems on ships" (Resolution MEPC.104(49)). The "Guidance on best management practices for removal of anti-fouling coatings from ships, including TBT hull paints" (Circular AFS.3/Circ.3 of 22 July 2009) developed by the London Convention on Dumping 1972 and its 1996 Protocol. This Guidance is limited to the subject of removal of harmful anti-fouling systems as the subject of (in-water) hull cleaning has been dealt with in separate guidelines.

Noting in particular that according to Article 5, a) .23, of the Argentinian Coast Guard General Law N° 18.398, the Argentinian Coast Guard in its condition of Maritime Authority, and as Navigation Safety Police is involved in the implementation, compliance and enforcement of laws and regulations concerning the pollution of waters.

Noting also that the Argentinian Coast Guard is in charge of the compliance and enforcement of the regime established by the Law N° 22.190.

In line of the aforesaid, the Argentinian Coast Guard is the Maritime Authority, with legal and technical capacity to further implementation, assure compliance and enforce the AFS Convention.

Due to the regime established by the AFS Convention, The Ministry of Economy through the State Secretary of Transport and Public Works (Sub-Argentinian Secretary of Environmental Order) should also be involved in the implementation, compliance and enforcement of the Convention where the activity is not directly related to Ships or other exclusive competences of the Argentinian Coast Guard. In particular, concurrent competence should be granted regarding the control of sell, distribution, manufacture and application of Organotin or an anti-fouling system containing Organotin.

The Senate and the Representative Chamber of the Argentinian Nation gathered in Congress, sanction with force of Law:

TITLE I. GENERAL PROVISIONS

Article 1. Purpose

The purpose of this Law is to reduce or eliminate adverse effects on the marine environment and human health caused by anti-fouling systems, and to implement the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001.

Article 2. Definitions

For purposes of this Law, except where otherwise specified,

- (1) "Ministry" means the Ministry of Economy through the State Secretary of Transport and Public Works (Sub-Argentinian Secretary of Environmental Order).
- (2) "Anti-fouling system" means a coating, paint, surface treatment, surface or device that is used or intended to be used on a ship to control or prevent attachment of unwanted organisms.
- (3) "Convention" means the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001, including its Annexes, and including any amendments to the Convention or Annexes which have entered into force for the Argentina.
- (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.
- (5) "International voyage" means a voyage by a ship entitled to fly the flag of one country to or from a port, shipyard, or offshore terminal under the jurisdiction of another country.
- (6) "Organotin" means any compound or additive of tin bound to an organic ligand, which is used or intended to be used as a biocide in an anti-fouling system.
- (7) "Person" means any individual, partnership, association, corporation, or organized group of persons whether incorporated or not, any department, agency or instrumentality of the Argentina, or any other government entity.
- (8) "Sell or distribute" means to distribute, sell, offer for sale, hold for distribution, hold for sale, hold for shipment, ship, deliver for shipment, release for shipment, import, export, hold for import, hold for export or receive and (having so received) deliver or offer to deliver.
- (9) "Ship" means a vessel of any type whatsoever, including 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) "Use" includes application, re-application, installation, or any other employment of an antifouling system.

Article 3. Application

- (a) This Law shall apply to any ship:
 - (1) of Argentinian registry or nationality, or one operated under the authority of the Argentina, wherever located;
 - (2) any other ship (not specified in subparagraph 1), while:
 - (A) in the internal waters
 - (B) in any port, shipyard or offshore terminal
 - (C) lightering in the territorial sea or
 - (D) to the extent consistent with international law, while anchoring in the territorial sea of the Argentina.
- (b) This Law shall not apply to:
 - (1) any warship, naval auxiliary or other ship owned or operated by a foreign State, and used, for the time being, only on government non-commercial service.
- (c) This Law shall also apply to persons as specified in Article 11.

Article 4. Administration and enforcement

- (a) Unless otherwise specified in this Law, with respect to ships, the Argentinian Coast Guard shall administer and enforce the Convention and this Law.
- (b) The Ministry shall administer and enforce title III of this Law.
- (c) The Ministry and the Argentinian Coast Guard are each authorized to prescribe and enforce regulations as may be necessary to carry out their respective responsibilities under this Law.

TITLE II. IMPLEMENTATION OF THE CONVENTION

Article 5. Certificates

- (a) Upon entry into force of the Convention, any ship of 400 gross tonnage and above that engages in one or more international voyages (except fixed or floating platforms, FSUs, and FSPOs) shall obtain an International Anti-fouling System Certificate.
- (b) On a finding that a successful survey required by the Convention has been

completed, a ship of 400 gross tonnage and above that engages in one or more international voyages (except fixed or floating platforms, FSUs, and FSPOs) shall be issued an International Anti-fouling System Certificate. The Argentinian Coast Guard is authorized to issue Certificates required by this article. The Argentinian Coast Guard may delegate this authority to an organization that the Argentinian Coast Guard determines is qualified to undertake such responsibility.

(c) The Certificate shall be maintained as required by the Argentinian Coast Guard.

(d) A Certificate issued by a country which is a Party to the Convention has the same validity as a Certificate issued by the Argentinian Coast Guard under this article.

(e) Notwithstanding subarticle (a), a ship of 400 gross tonnage and above, having the nationality of or entitled to fly the flag of a country that is not a party to the Convention, may demonstrate compliance through other appropriate documentation deemed acceptable by the Argentinian Coast Guard.

Article 6. Declaration

(a) A ship of 24 meters or more in length, but less than 400 gross tonnage, engaged on an international voyage (except fixed or floating platforms, FSUs, and FSPOs) must 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 an appropriate endorsement.

(b) The Declaration must contain a clear statement that the anti-fouling system on the ship complies with the Convention. The Argentinian Coast Guard is authorized to prescribe the form and other requirements of the Declaration.

Article 7. Other compliance documentation

Notwithstanding articles 5 and 6 of this title, the Argentinian Coast Guard may require ships to hold other documentation deemed necessary to verify compliance with this Law.

Article 8. Process for considering additional controls

(a) The Argentinian Coast Guard may, as appropriate:

- (1) participate in the technical group described in Article 7 of the Convention, and in any other body convened pursuant to the Convention for the consideration of new or additional controls on anti-fouling

systems;

(2) evaluate any risks of adverse effects on non-target organisms or human health presented by a given anti-fouling system such that the amendment of Annex 1 of the Convention may be warranted;

(3) undertake an assessment of relevant environmental, technical, and economic considerations necessary to evaluate any proposals for new or additional controls on antifouling systems under the Convention, including benefits in the Argentina and elsewhere, associated with the production and uses in the Argentina and elsewhere, of the subject anti-fouling system; and

(4) develop recommendations based on such assessment.

(b) Upon referral of any anti-fouling system to the technical group described in Article 7 of the Convention for consideration of new or additional controls, the Argentinian Coast Guard shall convene a public meeting for the purpose of receiving information and comments regarding controls on such anti-fouling system.

(c) The Argentinian Coast Guard shall promptly make any report by the technical group described in the Convention available to the public.

Article 9. Scientific and technical research and monitoring; communication and information

The Argentinian Coast Guard and the Ministry are authorized to undertake scientific and technical research and monitoring pursuant to Article 8 of the Convention and to promote the availability of relevant information concerning:

(a) Scientific and technical activities undertaken in accordance with the Convention;

(b) Marine scientific and technological programs and their objectives; and

(c) The effects observed from any monitoring and assessment programs relating to anti-fouling systems.

Article 10. Communication and exchange of information

With respect to those anti-fouling systems regulated by the Ministry, the Ministry shall provide to those Parties to the Convention who request it, relevant information on which the decision to regulate was based, including information provided for in Annex 3 to the Convention, or other information suitable for making an appropriate evaluation of the anti-fouling system; provided that this article shall not be construed to authorize the provision of information whose disclosure is otherwise prohibited by law.

TITLE III. ANTI-FOULING SYSTEMS CONTAINING ORGANOTIN

Article 11. Prohibitions

- (a) Notwithstanding any other provision of law, no person may:
 - (1) sell or distribute in domestic or international commerce organotin or an anti-fouling system containing organotin;
 - (2) manufacture, process, or use organotin to formulate an anti-fouling system; or
 - (3) apply an anti-fouling system containing organotin on any ship to which this Act applies.
- (b) Except as provided in subarticle (c), as of January 1, 2008, no ship shall bear on its hull or outer surface any anti-fouling system containing organotin, regardless of when such system was applied, unless that ship bears an overcoating which forms a barrier to organotin leaching from the underlying anti-fouling system.
- (c) Subarticle (b) shall not apply to fixed and floating platforms, FSUs or FSPOs which were constructed prior to January 1, 2003, and which have not been in dry dock on or after that date.

Article 12. Additional authority of the Ministry

The Ministry, in consultation with the Argentinian Coast Guard, may establish, as necessary, terms and conditions regarding the removal and disposal of anti-fouling systems prohibited or restricted under this Act.

TITLE IV. ENFORCEMENT AND VIOLATIONS

Article 13. General prohibition, cooperation and enforcement, detection and monitoring measures

- (a) It is unlawful to act in violation of the Convention, this Law, or any regulation issued thereunder.
- (b) The Argentinian Coast Guard is authorized to cooperate with other parties to the Convention in the detection of violations and in enforcement of the Convention. Nothing in this subparagraph affects or alters requirements under any other law.
- (c) The Argentinian Coast Guard and the Ministry in order to carry out their respective responsibilities under this Law are authorized to request the assistance and cooperation of other governmental institutions and organisms.

Article 14. Investigations and inspections

- (a) The Argentinian Coast Guard is authorized to conduct investigations and inspections regarding a ship's compliance with this Law or the Convention, in accordance with the procedural rules established by the REGINAVE.
- (b) Upon receipt of information that, with respect to a ship, a violation of the Convention or this Law has occurred, the Argentinian Coast Guard may cause the matter to be investigated. In any investigation under this article, the Argentinian Coast Guard may require the attendance of any witness and the production of documents and other evidence. In case of refusal the Argentinian Coast Guard may request the aid of the appropriate court of Argentina to compel compliance.
- (c) Upon completion of the investigation, the Argentinian Coast Guard may take whatever further action the Argentinian Coast Guard considers appropriate under the Convention or this Act.

Article 15. Enforcement

- (a) (1) For purposes of enforcing the provisions of Title III, officers or employees duly designated by the Ministry are authorized to enter at reasonable times (A) any location where organotin or anti-fouling systems containing organotin are held or may be held for distribution, sale or use, for the purpose of inspecting and obtaining samples of organotin packaged, labeled, and released for shipment, and samples of any containers or labeling for such organotin, or (B) any location where there is being held or may be held organotin which has been banned for the purpose of determining compliance with the Convention, this Law, or any regulation issued thereunder. In any investigation under this article, the Ministry may require the attendance of any witness and the production of documents and other evidence. In case of refusal the Ministry may request the aid of the appropriate court of Argentina to compel compliance.

(2) Consistent with article 4 of this Law, whenever any organotin is found by the Ministry and there is reason to believe that a seller, distributor or user has violated or is in violation of any provisions of Title III, or that such organotin has been or is intended to be distributed, sold, or used in violation of any such provision, the Ministry may issue a stop sale, use or removal order to any person who owns, controls or has custody of such organotin and after receipt of such order no person shall sell, distribute, use or remove the organotin described in the order except in accordance with the provisions of the order.

- (b) (1) The Argentinian coast guard shall apply the sanctions established in article 16.

- (2) The Ministry shall apply the sanctions established in article 16 subarticle (d), (e) and (f).

TITLE V. ACTION UPON VIOLATION, PENALTIES, AND REFERRALS

Article 16. Sanctions

Violations to the Convention, the present Law, and its regulations shall be punished by:

- (a) (1) Warning;
(2) Suspension
(3) Disqualification
(4) Fine from **ONE HUNDRED THOUSAND ARGENTINIAN PESOS (\$100,000)** to **THREE MILLION FOUR HUNDRED THOUSAND ARGENTINIAN PESOS (\$3,400,000)**. This sanction can be applied without prejudice to the former sanctions and to the prohibition of sailing the Ship when result suitable according to the nature of the infraction.

- (b) Shipowners and operators of ships in violation to the prohibition to bear on its hull or outer surface any anti-fouling system containing organotin, as established by article 11 of this Law, any of its provisions and the Convention, shall bear joint and strict liability and shall be subject to fine not less than **(\$100,000)** and not exceeding **(\$3,400,000)**.

The Master or the person responsible for such ship shall be subject to warning or suspension of their license for a term not less than 1 month and not exceeding 1 year.

- (c) Shipowners, operators and masters of ships sailing without the certificates, declarations and/or other documents, as required by article 5, 6 and 7 of this Law, any other provisions of this Law and the Convention, shall be subject to fine not less than **(\$100,000)** and not exceeding **(\$3,400,000)**.

The Master or the person responsible of such ship shall be subject to warning or suspension of its license for a term not less than 1 month and not exceeding 1 year.

- (d) Notwithstanding Article 16 (a) (4), any person who sells or distribute in domestic or international commerce organotin or an anti-fouling system containing organotin; shall be subject to fine between 2 to 10 times the value of the operation but not less than **(\$100,000)**.

- (e) Any person who manufactures, process, or uses organotin to formulate an anti-fouling system shall be subject to fine not less than **(\$100,000)** and not exceeding **(\$3,400,000)**.

(f) Any person who applies anti-fouling system containing organotin on any ship to which this Act applies, shall be subject to fine not less than (\$100,000) and not exceeding (\$3,400,000).

Article 17. Fine amount update

The Argentinian Coast Guard shall update each semester the amounts established for the fine in article 16 of this Law, in accordance with the national wholesale Price index issued by the NATIONAL INSTITUTE OF CENSUS AND STATISTICS.

Article 18. Procedural law

Unless as otherwise provided, the procedural law governing this Law, the jurisdiction, competence, graduation of sanctions established in article 16 of this Law, repeated offences, the time bar for sanctions, and appeals are subject to the procedural rules established in the REGINAVE.

Article 19. Liability for cleaning of waters

Without prejudice to the eventual sanctions that might be established under the convention, this Law or its regulation, shipowners and operators of ships shall bear joint and strict liability for the cleaning of waters or other expenses incurred by the Argentinian Coast Guard or Ministry as a consequence of matters subject to the Convention, this Law or its regulation. This provision shall be applied in accordance with the regime established under the Law 22.190 and its regulation.

Article 20 Guaranties for fines and liability

(a) The Argentinian Coast Guard shall request a bond or other surety to guarantee the payment of the fine.

(b) The appropriate court shall request a bond or other surety to guarantee the compliance with the liability for the cleaning of waters or other services.

(b) The fine or other surety referred to in this article shall be request under penalty of detention of the ship and of any other ship owned or operated by the person or persons fined, liable or allegedly liable.

Article 21. Ship clearance or permits; refusal or revocation; bond or other surety

If any ship subject to the Convention, or this Law, its owner, operator, or person in charge is liable for a sanction under article 16, or if reasonable cause exists to believe that the ship, its owner, operator, or person in charge may be subject to a sanction under article 16, the Argentinian Coast Guard may refuse or revoke the clearance required to proceed to or from an Argentinian port. Clearance may be granted upon the filing of a bond or other surety satisfactory to the Argentinian Coast Guard.

Article 22. Warnings, detentions, dismissals, exclusion

(a) If a ship is detected to be in violation of the Convention, this Law or any regulation issued thereunder, the Argentinian Coast Guard may warn, detain, dismiss, or exclude the ship from any port or offshore terminal under the jurisdiction of Argentina. The Argentinian coast guard shall ensure that ships are not subject to undue delay or wrongful detention.

(b) If action is taken pursuant to paragraph (a), the Argentinian Coast Guard, shall make the notifications required by the Convention.

Article 23. Referrals for appropriate action by foreign country

Notwithstanding articles 16, 19, or 22, if a violation of the Convention is committed by a ship registered in or of the nationality of a country Party to the Convention, or one operated under the authority of a country Party to the Convention, the Argentinian Coast Guard, may refer the matter to the government of the country of the ship's registry or nationality, or under whose authority the ship is operating for appropriate action, rather than taking the actions otherwise required or authorized by this Title.

Article 24. Remedies not affected

(a) Nothing in this Law shall limit, deny, amend, modify, or repeal any other remedy available to the Argentina.

(b) Nothing in this Law shall limit, deny, amend, modify, or repeal the rights under existing law, of any Argentinian state or political subdivision to regulate anti-fouling paint or any other anti-fouling system. Compliance with the requirements of any Argentinian State or political subdivision thereof respecting anti-fouling paint or any other anti-fouling system shall not relieve any person of the obligation to comply with the provisions of this Act.

ARTICLE 25. Notifications

Notify to the National Executive Power, Publish it in the official Gazette.

XII. Annex – Text of the international CONVENTION ON THE
CONTROL OF HARMFUL ANTI-FOULING SYSTEMS ON
SHIPS

**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 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) "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, 1969¹, 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, 1966², as modified by the Protocol of 1988³ 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;

¹ Treaty Series No.50 (1982) Cmnd 8716

² Treaty Series No.58 (1968) Cmnd 3708

³ Treaty Series No.100 (2000) Cm 4829

- (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 onboard 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. 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.

(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 Sea⁴.

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.

⁴ Treaty Series No.81 (1999) Cm 4524

- (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 percent 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 in 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 Nations⁵.

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.

⁵ Treaty Series No.67 (1946) Cmd 7015

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 re-apply 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 noncompliant antifouling 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 Abstract Services 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 (pKa);
- 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 seabed, 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 Antifouling 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 organizations⁶ 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

⁶ Refer to the guidelines adopted by the organization by resolution A.739(18), as many be amended by the Organization, and the specifications adopted by the Organization by resolution A.789(19), as may be amended by the Organization

- (ii) carry out surveys if requested by the appropriate authorities of a port State that is a Party to this Convention.
- (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 meters 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 ship*⁷

Name of ship

Distinctive number or letters.....

Port of registry

Gross tonnage

IMO number⁸

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)

⁷ Alternatively, the particulars of the ship may be placed horizontally in boxes.

⁸ In accordance with the IMO Ship Identification Number Scheme adopted by the Organization with Assembly resolution A.600(15)

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)*⁹, but must be removed or covered with a sealer coat prior to
.....*(date)*¹⁰
.....

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:

⁹ Date of entry into force of the control measure

¹⁰ Date of expiration of any implementation period specified in article 4(2) or Annex 1.

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 Abstract Services 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 Records¹¹

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 Abstract Services 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:

Date¹²:

(Seal or stamp of the authority)

.....

¹¹ This page of the record shall be reproduced and added to the Record as considered necessary by the Administration

¹² 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)

**FINAL ACT OF THE INTERNATIONAL CONFERENCE ON THE
CONTROL OF HARMFUL ANTI-FOULING SYSTEMS FOR SHIPS, 2001**

1 In accordance with Article 2(b) of the Convention on the International Maritime Organization, the Council of the Organization decided, at its twentieth extraordinary session in November 1999, to convene a diplomatic conference to consider the adoption of a draft international convention on the control of harmful anti-fouling systems. This decision was endorsed by the Assembly of the Organization at its twenty-first regular session by resolution A.877(21) of 25 November 1999 on the Work Programme and Budget for the Twenty-First Financial Period 2000-2001.

2 The Conference was held at the Headquarters of the Organization in London from 1 to 5 October 2001.

3 Representatives of 75 States participated in the Conference, namely the representatives of:

ALGERIA
ARGENTINA
AUSTRALIA
BAHAMAS
BANGLADESH
BELGIUM
BELIZE
BRAZIL
BULGARIA
CANADA
CHILE
CHINA
COLOMBIA
CROATIA
CUBA
CYPRUS
DEMOCRATIC PEOPLE'S
REPUBLIC OF KOREA
DENMARK
ECUADOR
EGYPT
ESTONIA
FINLAND
FRANCE
GERMANY
GREECE
GUATEMALA
HONDURAS
ICELAND

INDIA
INDONESIA
IRAN (ISLAMIC REPUBLIC OF)
IRELAND
ITALY
JAMAICA
JAPAN
KENYA
LATVIA
LEBANON
LIBERIA
LUXEMBOURG
MALAYSIA
MALTA
MARSHALL ISLANDS
MEXICO
MONACO
MOROCCO
NETHERLANDS
NIGERIA
NORWAY
PAKISTAN
PANAMA
PERU
PHILIPPINES
POLAND
PORTUGAL
REPUBLIC OF KOREA
ROMANIA
RUSSIAN FEDERATION
SAUDI ARABIA
SINGAPORE
SOUTH AFRICA
SPAIN
SRI LANKA
SWEDEN
SYRIAN ARAB REPUBLIC
TONGA
TRINIDAD AND TOBAGO
TUNISIA
TURKEY
UKRAINE
UNITED KINGDOM
UNITED STATES
URUGUAY
VANUATU
VENEZUELA

4 The following Associate Member of the Organization sent observers to the Conference:

HONG KONG, CHINA

5 The following intergovernmental organizations sent observers to the Conference:

EUROPEAN COMMISSION (EC)
LEAGUE OF ARAB STATES

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

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL SHIPPING FEDERATION LTD (ISF)
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
BALTIC AND INTERNATIONAL MARITIME COUNCIL (BIMCO)
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
EUROPEAN CHEMICAL INDUSTRY COUNCIL (CEFIC)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
INTERNATIONAL ASSOCIATION OF THE INSTITUTES OF NAVIGATION (IAIN)
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)
INTERNATIONAL ASSOCIATION OF OIL AND GAS PRODUCERS (OGP)
ASSOCIATION OF EUROPEAN SHIPBUILDERS AND SHIPREPAIRERS (AWES)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS (INTERTANKO)
INTERNATIONAL TANKER OWNERS POLLUTION FEDERATION LIMITED (ITOPF)
INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES (IUCN)
GREENPEACE INTERNATIONAL
INTERNATIONAL COUNCIL OF CRUISE LINES (ICCL)
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS (INTERCARGO)
WORLD WIDE FUND FOR NATURE (WWF)
THE INSTITUTE OF MARINE ENGINEERS (IME)

INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)
INTERNATIONAL SAILING FEDERATION (ISAF)
WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)

7 The Conference was opened by Mr. W.A. O'Neil, Secretary-General of the International Maritime Organization.

8 Captain Arturo Ojeda Zernott (Chile) was elected President of the Conference.

9 The Vice-Presidents elected by the Conference were:

Mr. Essam Gamal Eldin Roushdy (Egypt)
Mr. Gérard Gasc (France); and
H.E. Ambassador Nana S. Sutresna (Indonesia)

10 The Secretariat of the Conference consisted of the following officers:

Secretary-General: Mr. W.A. O'Neil
Secretary-General of the Organization

Executive Secretary: Mr. K. Sekimizu
Director, Marine Environment Division

Deputy Executive Secretaries: Mr. J-C. Sainlos
Senior Deputy Director, Marine Environment
Division

Mr. Du Dachang
Senior Deputy Director, Marine Environment
Division

11 The Conference established a Committee of the Whole with the mandate to consider a draft International Convention on the Control of Harmful Anti-fouling Systems.

12 A Credentials Committee was appointed to examine the credentials of representatives attending the Conference. The Committee was composed of representatives of the following States:

CANADA
INDIA
JAPAN
RUSSIAN FEDERATION
SWEDEN

Ms. Natalie Kutaeva (Russian Federation) was elected Chairman for the Credentials Committee.

13 The Committee of the Whole established a Working Group and a Drafting Group.

14 The officers elected for the Committee of the Whole and for the Working Group and the Drafting Group were as follows:

Committee of the Whole

Chairman: Mr. Michael Julian (Australia)

Vice-Chairmen: Capt. Angel Suarez Vallejo (Mexico)

Mr. Sveinung Oftedal (Norway)

Working Group

Chairman: Mr. Bryan Wood-Thomas (United States)

Drafting Group

Chairman: Mr. Lex Burgel (The Netherlands)

15 The Conference used as the basis of its work the following document proposed by the Marine Environment Protection Committee:

The draft text of the International Convention on the Control of Harmful Anti-fouling Systems.

16 Also before the Conference were a number of documents containing proposals and comments submitted by Governments and interested organizations.

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

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

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

Resolution 1: Early and effective application of the International Convention on the Control of Harmful Anti-fouling Systems on Ships

Resolution 2: Future work by the Organization pertaining to the International Convention on the Control of Harmful Anti-fouling Systems on Ships

Resolution 3: Approval and test methodologies for anti-fouling systems on ships

Resolution 4: Promotion of technical co-operation

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

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

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

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

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 percent 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,

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;

URGES ALSO 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 Antifouling 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,

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;

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;

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;

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,

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,

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;

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;

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.