

These Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species are intended to provide a globally consistent approach to the management of biofouling. They were adopted by the Marine Environment Protection Committee at its sixty-second session, from 11 to 15 July 2011, in the form of resolution MEPC.207(62) and are the result of three years of consultation between IMO Member States. The Guidelines represent a decisive step towards regulating one of the most important vectors for aquatic invasions.

GUIDELINES FOR THE

CONTROL AND MANAGEMENT OF SHIPS' BIOFOULING

TO MINIMIZE THE TRANSFER OF INVASIVE AQUATIC SPECIES

2012 EDITION

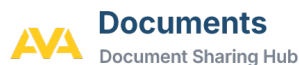


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TO MINIMIZE THE TRANSFER OF INVASIVE AQUATIC SPECIES

2012 EDITION



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Foreword

The introduction of harmful aquatic organisms to new environments by ships has been identified as a major threat to the world's oceans and to the conservation of biodiversity. Biofouling, described as the undesirable accumulation of microorganisms, plants, algae and animals on submerged structures (especially ships' hulls), is considered one of the main vectors for bioinvasions.

These Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species are intended to provide a globally consistent approach to the management of biofouling. They were adopted by the Marine Environment Protection Committee of the International Maritime Organization at its sixty-second session, from 11 to 15 July 2011, in the form of resolution MEPC.207(62) and are the result of three years of consultation between IMO Member States. The Guidelines represent a decisive step towards regulating the transfer of aquatic invasive species by ships.

As scientific and technological advances are made, the Guidelines will be refined to enable the risk to be more adequately addressed. Port States, flag States, coastal States and other parties that can assist in mitigating the problems associated with biofouling should exercise due diligence to implement the Guidelines to the maximum extent possible. Implementing practices to control and manage biofouling can greatly assist in reducing the risk of transfer of invasive aquatic species. Such management practices can improve a ship's hydrodynamic performance and can be effective tools in enhancing energy efficiency and reducing air emissions from ships.



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Resolution MEPC.207(62)

adopted on 15 July 2011

Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING article 38 of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (MEPC) relating to any matter within the scope of the Organization concerned with the prevention and control of marine pollution from ships,

RECALLING ALSO that Member States of the International Maritime Organization made a clear commitment to minimizing the transfer of invasive aquatic species by shipping in adopting the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004,

RECALLING FURTHER that studies have shown biofouling on ships to be an important means of transferring invasive aquatic species which, if established in new ecosystems, may pose threats to the environment, human health, property and resources,

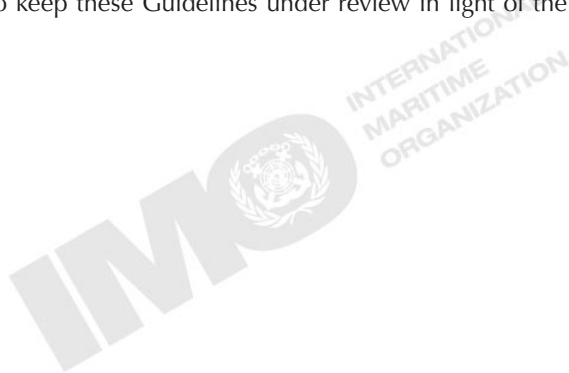
NOTING the objectives of the Convention on Biological Diversity, 1992, and that the transfer and introduction of aquatic invasive species through ships' biofouling threatens the conservation and sustainable use of biological diversity,

NOTING ALSO that implementing practices to control and manage ships' biofouling can greatly assist in reducing the risk of the transfer of invasive aquatic species,

NOTING FURTHER that this issue, being of worldwide concern, demands a globally consistent approach to the management of biofouling,

HAVING CONSIDERED, at its sixty-second session, the draft Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species, developed by the Sub-Committee on Bulk Liquids and Gases,

1. ADOPTS the 2011 Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species, as set out in the annex to the present resolution;
2. REQUESTS Member States to take urgent action in applying these Guidelines, including the dissemination thereof to the shipping industry and other interested parties, taking these Guidelines into account when adopting measures to minimize the risk of introducing invasive aquatic species via biofouling, and reporting to the MEPC on any experience gained in their implementation; and
3. AGREES to keep these Guidelines under review in light of the experience gained.



1 Introduction

1.1 In the adoption of the International Convention for the control and management of ships' ballast water and sediments, 2004 (BWM Convention), Member States of the International Maritime Organization (IMO) made a clear commitment to minimizing the transfer of invasive aquatic species by shipping. Studies have shown that biofouling can also be a significant vector for the transfer of invasive aquatic species. Biofouling on ships entering the waters of States may result in the establishment of invasive aquatic species which may pose threats to human, animal and plant life, economic and cultural activities and the aquatic environment.

1.2 While the International Convention on the control of harmful anti-fouling systems on ships, 2001 (AFS Convention) addresses anti-fouling systems on ships, its focus is on the prevention of adverse impacts from the use of anti-fouling systems and the biocides they may contain, rather than preventing the transfer of invasive aquatic species.

1.3 The potential for invasive aquatic species transferred through biofouling to cause harm has been recognized by the IMO, the Convention on Biological Diversity (CBD), several UNEP Regional Seas Conventions (e.g., Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution), the Asia Pacific Economic Cooperation forum (APEC), and the Secretariat of the Pacific Region Environmental Program (SPREP).

1.4 All ships have some degree of biofouling, even those which may have been recently cleaned or had a new application of an anti-fouling coating system. Studies have shown that the biofouling process begins within the first few hours of a ship's immersion in water. The biofouling that may be found on a ship is influenced by a range of factors, such as follows:

- .1** design and construction, particularly the number, location and design of niche areas;
- .2** specific operating profile, including factors such as operating speeds, ratio of time underway compared with time alongside, moored or at anchor, and where the ship is located when not in use (e.g., open anchorage or estuarine port);
- .3** places visited and trading routes; and

- .4 maintenance history, including: the type, age and condition of any anti-fouling coating system, installation and operation of anti-fouling systems and dry-docking/slipping and hull cleaning practices.

1.5 Implementing practices to control and manage biofouling can greatly assist in reducing the risk of the transfer of invasive aquatic species. Such management practices can also improve a ship's hydrodynamic performance and can be effective tools in enhancing energy efficiency and reducing air emissions from ships. This concept has been identified by the IMO in the Guidance for the development of a ship energy efficiency management plan (SEEMP) (MEPC.1/Circ.683).

1.6 These Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species (the Guidelines) are intended to provide a globally consistent approach to the management of biofouling. As scientific and technological advances are made, the Guidelines will be refined to enable the risk to be more adequately addressed. Port States, flag States, coastal States and other parties that can assist in mitigating the problems associated with biofouling should exercise due diligence to implement the Guidelines to the maximum extent possible.

2 Definitions

2.1 For the purposes of these Guidelines, the following definitions apply:

AFS Convention means the International Convention on the control of harmful anti-fouling systems on ships, 2001.

Anti-fouling coating system means the combination of all component coatings, surface treatments (including primer, sealer, binder, anti-corrosive and anti-fouling coatings) or other surface treatments, used on a ship to control or prevent attachment of unwanted aquatic organisms.

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.

Biofouling means the accumulation of aquatic organisms such as micro-organisms, plants, and animals on surfaces and structures immersed in or exposed to the aquatic environment. Biofouling can include microfouling and macrofouling (see below).

In-water cleaning means the physical removal of biofouling from a ship while in the water.

Invasive aquatic species means a species which may pose threats to human, animal and plant life, economic and cultural activities and the aquatic environment.

Marine growth prevention system (MGPS) means an anti-fouling system used for the prevention of biofouling accumulation in internal seawater cooling systems and sea chests and can include the use of anodes, injection systems and electrolysis.

Member States means States that are Members of the International Maritime Organization.

Macrofouling means large, distinct multicellular organisms visible to the human eye such as barnacles, tubeworms, or fronds of algae.

Microfouling means microscopic organisms including bacteria and diatoms and the slimy substances that they produce. Biofouling comprised of only microfouling is commonly referred to as a slime layer.

Niche areas mean areas on a ship that may be more susceptible to biofouling due to different hydrodynamic forces, susceptibility to coating system wear or damage, or being inadequately, or not, painted, e.g., sea chests, bow thrusters, propeller shafts, inlet gratings, dry-dock support strips, etc.

Organization means the International Maritime Organization.

Port State authority means any official or organization authorized by the Government of a port State to verify the compliance and enforcement of standards and regulations relevant to the implementation of national and international shipping control measures.

Ship means a vessel of any type whatsoever operating in the aquatic 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).

States means coastal, port or Member States as appropriate.

Treatment means a process which may use a mechanical, physical, chemical or biological method to remove or render sterile, invasive or potentially invasive aquatic species fouling a ship.