

MARINE ENVIRONMENT PROTECTION
COMMITTEE
70th session
Agenda item 17

MEPC 70/INF.23
18 August 2016
ENGLISH ONLY

ANY OTHER BUSINESS

A template for the completion of a biofouling management plan

Submitted by IMarEST and IPPIC

SUMMARY

Executive summary: Resolution MEPC.207(62) adopted the *2011 Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species* (the Guidelines) and requested Member States to take urgent action in applying these guidelines. The Guidelines state that biofouling management measures to be undertaken on a ship should be outlined in a biofouling management plan and an example of a biofouling management plan is appended to the Guidelines. This details the information which is important to be recorded, but no formal template is provided to capture that information. IPPIC and IMarEST have developed a template for the plan that particularly addresses coating related issues in that guidance.

Strategic direction: No related provisions

High-level action: No related provisions

Output: No related provisions

Action to be taken: Paragraph 7

Related document: Resolution MEPC.207(62)

Background

1 In international shipping, the effects of biofouling on speed, manoeuvrability, operability and durability of vessels is well documented. In recent times biofouling is additionally recognised for its potential impact on the global environment by increasing greenhouse gas (GHG) emissions from ships and facilitating the transfer of invasive aquatic species. To address the latter, the *Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species* (the Guidelines) were adopted by the Marine Environment Protection Committee (MEPC) at its sixty-second session in 2011 in the form of resolution MEPC.207(62).

2 The Guidelines consider that implementation of an effective biofouling management regime is critical for minimizing the transfer of invasive aquatic species and that biofouling management measures to be undertaken on a ship should be outlined in a biofouling management plan. The Guidelines therefore recommend that every ship should have a biofouling management plan, and an example of a biofouling management plan is appended to the Guidelines.

3 Whilst the Guidelines and example plan detail the information on biofouling management measures which is important to be recorded, no formal template is provided to capture that information.

Template for a biofouling management plan

4 A template for preparation of a biofouling management plan is provided in the annex to this document. The template captures all relevant information described in the Guidelines, whilst specifically addressing coating related issues in that guidance.

5 To that end it describes the issues that need to be considered and discussed in the process of:

- .1 choosing the anti-fouling system for the external hull by using a check list system for the discussions between the paint suppliers and the customers;
- .2 giving considerations to choose the best available paint technology specifically for niche areas where hydrodynamic conditions differ from those found on the external hull; and
- .3 any planned management actions to be completed between planned dry-dockings to minimize the biofouling on the hull.

6 It is noted that it remains the owner's/operator's sole decision to have and to maintain a management plan and record book on board his own vessel.

Action requested of the Committee

7 The Committee is invited to note the information contained in this document and the opportunity for Member States, observers and relevant organizations to adopt the biofouling management plan template.

ANNEX

TEMPLATE FOR A BIOFOULING MANAGEMENT PLAN

Introduction and background

The IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species, adopted under resolution MEPC.207(62) in July 2011, provide a globally consistent approach to the management of biofouling on ships.

The Guidelines give recommendations on general measures to be considered in order to reduce the risk of transfer of biofouling on ships not only in relation to the aspects of choosing the right fouling control paint for the different parts of the ship but also to give consideration to ship design, dry-dock maintenance, recycling , crew training etc.

The guidance suggests that plans for managing the biofouling are developed for each individual ship. Each ship shall also keep on board a biofouling record book to document the various management procedures that have been taken throughout the lifespan of the ship.

Objectives

Whilst the Guidelines detail the information which is important to be recorded regarding fouling control, no formal template is provided in which to capture that information. This document provides such a template to capture all relevant information described in the Guidelines with particular attention to coatings. The template encompasses:

- the choice of anti-fouling system (AFS) for the external hull with a check list system to inform this choice;
- selection of AFS for niche areas where hydrodynamic conditions may differ from those found on the external hull; and
- planned management actions to be completed between planned dry-dockings to minimize the biofouling on the hull

Note: It is ultimately the ship owner or operator's decision to have and to maintain a biofouling management plan and biofouling record book on-board their ship.

BIOFOULING MANAGEMENT PLAN

In accordance with appendix 1 of resolution MEPC.207(62) of 2011: "Guidelines for the control and management of ships" biofouling to minimize the transfer of invasive aquatic species'.

SHIP PARTICULARS

Ship's name

Flag State

Port of registry

IMO number

Gross tonnage

Type (LR classified)

Regulation length

Beam

International call sign and MMSI

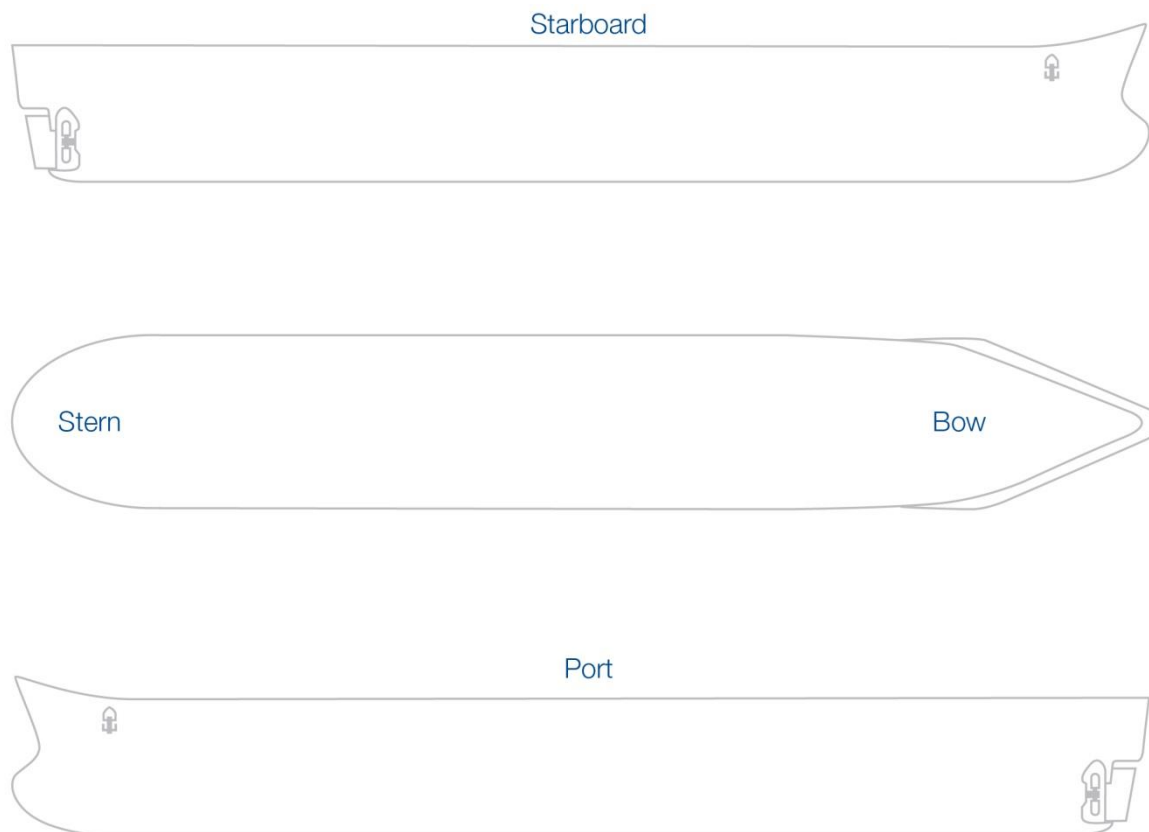
Ship owner (current)

AFS SPECIFICATION PARTICULARS/OPERATING PROFILE

| | |
|--|----------------------------|
| Typical operating speed (knots) | |
| Period underway/activity (%) | |
| Expected lay-up periods (anchored, moored) (weeks) | |
| Typical operating region or trading routes | |
| Planned duration between dry-docking/slipping | |
| Expected dry-docking country (if known) | |
| Dry-docking and maintenance history | see Biofouling Record Book |

DESCRIPTION OF AREAS ON THE SHIP SUSCEPTIBLE TO BIOFOULING

Areas particularly **susceptible** **to** **biofouling**
[Please indicate on the diagrams the areas particularly susceptible to biofouling, including niche areas and seawater systems access points in the internal seawater systems]



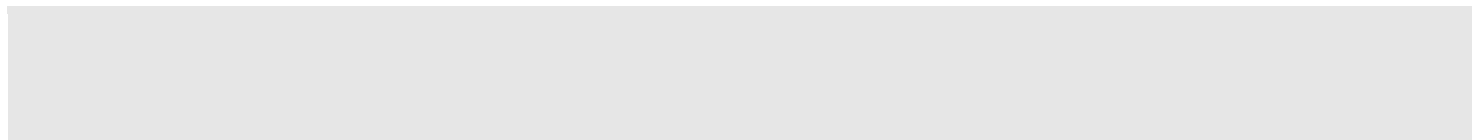
Identify the niche areas relevant for the ship in question in the table below (tick as appropriate). Include other niche areas as required:

| General hull and appendages | | Niche areas | |
|-----------------------------|--|-------------|---------------------------|
| | Flat-bottom | | Sea chests |
| | Vertical sides | | Inlet gratings |
| | Bow dome | | Sea inlet pipes |
| | Boot-top | | Bow and stern thruster |
| | Bilge keels | | Propeller and shaft |
| | Stabilizer fins | | Rope guards |
| | Rudder | | Box coolers |
| | Dock block positions | | Moon pools |
| | A-bracket/stern tube | | Free-flood spaces / voids |
| | Cathodic protection anodes and systems | | Other |
| | Draft and hull markings | | |

DESCRIPTION OF THE ANTI-FOULING SYSTEMS

| Anti-fouling system applied | Area/Location applied | DFT | Expected life time | Manufacturer | If requirements for cleaning - method should be specified | AFS Certificate |
|--|---|-----|--------------------|--------------|---|-----------------|
| Products(s)/systems applied* | [Enter details of the coating applied for each section of the ship – hull and niche area. Table will expand as more text is entered. For sea chests, indicate function and if MGPS dosed, or containing box coolers] | | | | | |
| Detail any immersed areas where AFS are <u>not</u> applied or installed | | | | | | |
| Marine Growth Prevention Systems**(MGPSs) Dosing frequency | [Enter details of fitted systems, including System Name, Manufacturer, type, anode or dosing locations, seawater systems protected, dosing regime etc.] | | | | | |
| List seawater systems without fitted MGPSs, and presence and location of box coolers | | | | | | |
| Operating profile required for AFS to be effective | [From Product Data Sheets for applied AFS] | | | | | |
| Other specifications relevant for AFS performance, if any | | | | | | |

Previous reports on AFS performance (if available)



* This section can be completed using the AFS "specification" or warranty document provided by your AFS supplier.

**This section should be completed in collaboration with your MGPS provider

BIOFOULING MANAGEMENT ACTION PLAN TO MINIMISE THE TRANSFER OF INVASIVE AQUATIC SPECIES

| Ship area <i>(To be completed for areas particularly susceptible to biofouling – see previous)</i> | Planned management action and frequency <i>(e.g., inspections, cleaning, repairs and maintenance)</i> | Management action if ship operates outside its usual operating profile | |
|--|---|---|--|
| External hull surfaces: | | | |
| Vertical sides | | | |
| Flat-bottom | | | |
| Docking block positions | [Variation in block plan between dockings / bouncing the ship in the dock / in-water cleaning before/after docking / routine in-water cleaning] | | |
| Boot-top | | | |
| Bow dome | | | |
| Hull appendages and fittings: | | | |
| Bilge keels | | | |
| A-brackets | | | |
| Stabilizer fins | | | |
| CP anodes | | | |

| Ship area <i>(this should be completed for areas particularly susceptible to biofouling)</i> | Planned management action <i>(e.g., inspections, cleaning, repairs and maintenance)</i> | Management actions if ship operates outside its usual operating profile |
|--|---|--|
| Steering, propulsion and positioning: | | |
| Propellers | | |
| Stern tube seal | | |
| Rope Guards | | |
| Propulsor body and ring | | |
| Anchor and chain | | |
| Chain locker | | |
| Rudder | | |
| Rudder recesses (pintle recesses, lifting tubes etc.) | | |
| Thruster propeller(s) | | |
| Thruster body(s) | | |
| Thruster rope guards/shaft seals | | |
| Tunnel(s) | | |
| Tunnel grates | | |

| Ship area <i>(this should be completed for areas particularly susceptible to biofouling)</i> | Planned management action <i>(e.g., inspections, cleaning, repairs and maintenance)</i> | Management actions if ship operates outside its usual operating profile |
|--|---|--|
| Intake and internal seawater systems | | |
| Engine cooling system | [include associated sea chests, box coolers, grates, internal pipework, etc.] | |
| Sea chests <i>(identify number, position, box cooler presence)</i> | | |
| Emergency fire-fighting system | [include associated sea chests, grates, internal pipework, etc.] | |
| Auxiliary services system | [include associated sea chests, grates, internal pipework, etc.] | |
| Potable water generation | | |
| Ballast water uptake | | |
| Ancillary systems | | |
| Other systems (itemise each) | | |

OPERATION AND MAINTENANCE OF THE ANTI-FOULING SYSTEMS

Timing of operational and maintenance activities

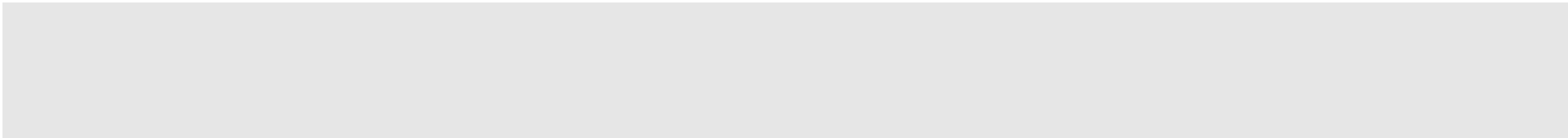
Schedule of planned inspections, repairs, maintenance and renewal of AFS



In-water cleaning and maintenance procedures

Schedule of planned maintenance procedures to be completed between dry-docking events

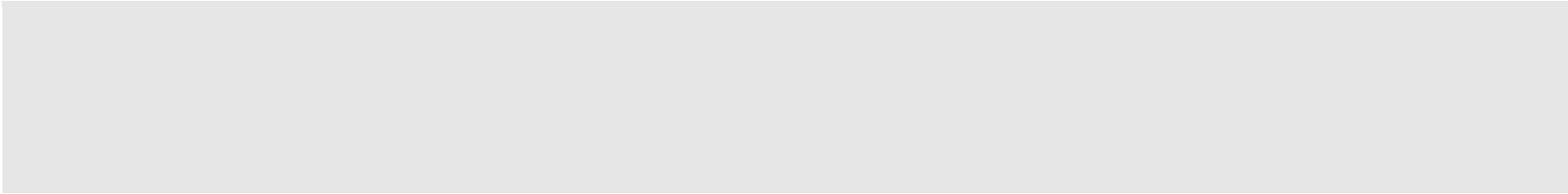
Treatment/ cleaning conducted and detailed operational procedures, chemicals, discharge standards applied to specific areas



Operation of on board treatment processes

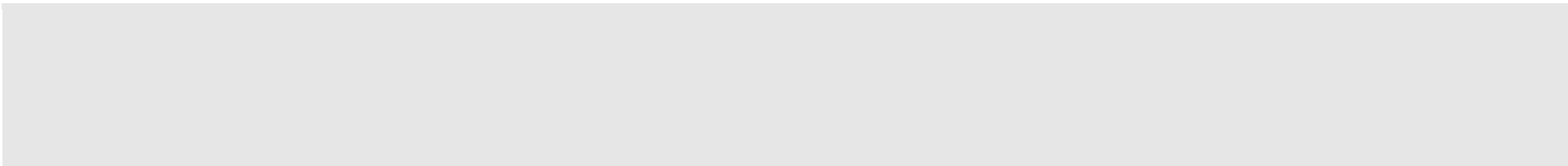
MGPS fitted, internal seawater systems covered by the system associated maintenance and inspection schedule and procedures

Operational frequency and cleaning/maintenance requirements on completion



Planned biofouling management if MGPS is temporarily out of operation

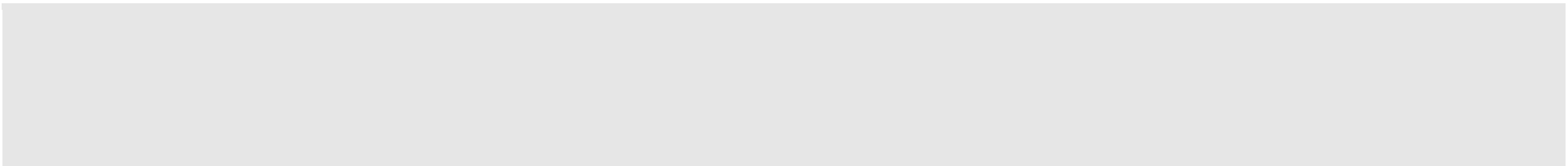
Document procedures



SAFETY PROCEDURES FOR THE SHIP AND CREW

Safety procedures to be followed during ship inspections

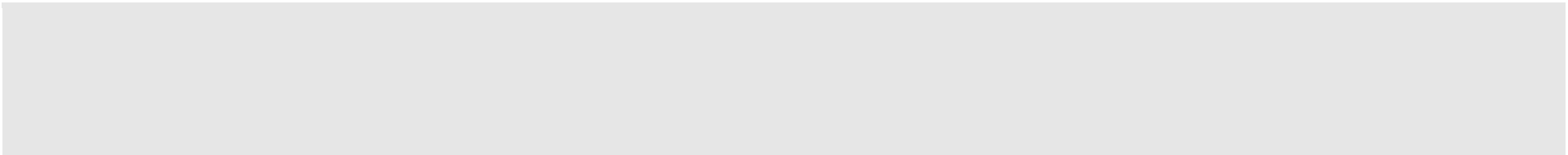
Details of specific operational or safety restrictions, including those associated with the management system that affects the ship and/or the crew



DISPOSAL OF BIOLOGICAL WASTE

Procedures for the disposal of biological waste generated by treatment/cleaning processes

When the cleaning is conducted by, or under the direct supervision of, the ship owner, master or crew



BIOFOULING RECORD BOOK

Recording

Documentation to be kept to verify operations / treatments

requirements

[record reference details and location of the ship's Biofouling Record Book]

CREW TRAINING AND FAMILIARISATION

Provisions for crew training and familiarisation

Document procedures